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INTRODUCTORY ADDRESS

ON THE

OPENING OF THE MEDICAL SESSION,

DELIVERED AT THE

MIDDLESEX HOSPITAL SCHOOL OF MEDICINE,

Oct. 1841,

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Gentlemen,—We are met together, at the commencement of another medical session, attracted by the common interest which we all feel in one great object:—that object is no less than the preservation (as far as it lies within our power to preserve it) of medical science; the flame of which, it is evident, would be extinguished, if no provision were made for the instruction of the young, and for the continuation of a race of well-informed practitioners of our art. It *is* therefore an important object, it *is* an express part of our duty, not only to receive and to carry, but to transmit and to hand down to posterity the torch of medical science.

To promote this object, to enable us to impart to others the results of past experience and observation, to add strength to the obligation of bequeathing to those who are to come after us the knowledge which we may have ourselves inherited or acquired, these ends are now generally admitted to constitute one great purpose and design of the hospitals of this country.

It is true that this is not their primary purpose. The more obvious and immediate design of relieving their suffering inmates, was undoubtedly the first motive which awakened the sympathies of the better part of mankind, and called forth those strenuous exertions, those munificent contributions of founders and subscribers to which (for the most part in this country at least) we owe these inestimable institutions. But the second purpose, which has grown out of the first, has become scarcely less considerable; nay, in its ulterior effects, it is even more important. For the good which a hospital can effect, by the direct relief which it affords to sufferers, is limited, of course, to the simple numbers which it relieves. But the benefits which it *may* produce by sending forth skilful practitioners, by sending them forth, perhaps, to all parts of the world, these increase, as it were, in geometrical progression. The circle thus produced may extend itself indefinitely, and, by its larger comprehension, may ultimately affect society far more than could the central impression which originated these widely-spreading effects.

I have said that this view of the secondary use of hospitals is now generally admitted. If formerly it was not so, this arose from a natural, though groundless, fear, that the second purpose might interfere with the first. But it has been found that, with proper precautions, this need not be the case. Nay more, that the business of instruction may even be rendered conducive to the present interests and immediate advantage of the sick: for without the assistance of pupils and dressers, there are many of the services of the hospital which could not be so efficiently provided for.

Thus is it in every way desirable to unite instruction with practice. It is, in fact, not merely allowable to the officers of a public hospital to teach the art which they profess and exercise, but it becomes their bounden duty to do so. They may do this, of course, in different degrees and proportions, according to their several means and opportunities and abilities. But all, at least in some degree, incur upon this head a responsibility which may not be regarded lightly. It must be, it *is* regarded seriously by all who desire to satisfy the reasonable expectations of others, and, what is more, their own conscientious sense of duty.

> Hoc opus, hoc studium parvi properemus et ampli,
> Si PATRIÆ volumus, si NOBIS vivere cari.

The very walls were, on some occasion, invoked by the Roman orator to bear witness to the truth of his discourse. On the present occasion, I should scarcely be using a figure of speech if I were to assert that these walls, within which I am now addressing you, can testify to the existence and to the prevalence of the sentiments which I have represented as now commonly entertained. For here,

within the precincts of a hospital, with the permission and by the aid of its enlightened governors, this school has been erected, for the very purpose of enabling the hospital to fulfil its secondary duty, of imparting instruction to pupils.

May its influence be thus indefinitely extended! May the benefits which it confers be multiplied an hundred fold! And may the good seed of experience which is raised in its wards be thus wafted to distant lands, and take root and bear fruit wheresoever it is wafted!

The business then of education may properly be carried on in a public hospital. Can it be carried on with sufficient advantage in a hospital like ours? For, compared with some hospitals in our own country, and with many on the continent, ours may appear a small one: but, for the purposes of study and instruction, I apprehend that this is of little consequence. Indeed, there are reasons why, with a view to practical improvement, a hospital of moderate size may be even preferable to one of the largest dimensions. Provided it be large enough (and for this it clearly should be large enough) to admit cases of every description, in numbers proportioned to their ordinary degrees of frequency (their very frequency rendering those which are most numerous most important), and provided that such cases be as numerous as can be watched attentively and studied diligently, no more can be required, nor can more be wished for students, especially for beginners. If the produce of a garden be abundantly sufficient for its owner's use, he requires not, as far as his own consumption is concerned, a larger space. Is there not reason to fear that a larger space might not be equally well cultivated? And thus, when the progress of civilisation has caused a country to be subdivided to a certain extent, then, for the most part, cultivation is most perfect, and agricultural skill is carried to its highest attainable point.

In hospitals of the largest size there is reason to fear that the mind of the youthful student may be confused by the multiplicity of objects which are at once presented to his notice; or, at least, that his attention may be diverted from that close and patient study of particular cases on which alone his real improvement depends. Again, there is a natural tendency in students to desert the commoner cases of disease for those which are rare and curious. And yet, since their future business and greatest happiness will consist in curing as much of disease as they can, and in administering the largest possible amount of relief to human suffering, the commoner cases are to them the more valuable, for the very reason that they are of daily occurrence: they prefer, in fact, a better claim to the attention of a sober-minded student than cases of so rare a nature, that the like, perhaps, may never fall beneath his treatment. But no where is this preference of the curious and the extraordinary to that which is ordinary, and, therefore, practically useful, this somewhat unhealthy appetite for pathological rarities, no where is this so greatly stimulated, and consequently so likely to be indulged, as in the largest hospitals. In them a restless running after novelties is apt to supersede the steady, constant pace of those who are toiling in their proper road, and making therein a real progress. Again, where business must be conducted on a very extensive scale, where much must be administered by general rules, and where all things must be performed within stated and often limited periods, it cannot be expected but that some things may be roughly, not to say imperfectly, executed. Is there not danger that some degree of apathy or of carelessness may hence be generated in students, unless they are much upon their guard in these respects?

On the other hand, it must be granted that for large results, for copious inductions, and comprehensive generalisations, for the collection of statistical returns, for laborious investigations and comparisons, and for the elucidation of obscure parts of pathology, for purposes like these, the larger hospitals, that, in some foreign capitals, are supported by the resources, and administered by the authority of the State, offer advantages that cannot elsewhere be equalled. But these objects, important as they deserve to be considered in a scientific point of view, and ultimately with a view to the good of mankind, yet do not, it must be admitted, immediately concern the younger students. Nor do they affect the vital interests of the human race so powerfully or so directly as the less ostentatious, but more useful, pursuits and appliances of the healing art, those that supply the means of preserving life, and of rendering existence happy, or free, at least, from constant suffering.

For the reasons that have been mentioned, these latter objects are likely to engage a greater share of attention, and to be more deeply impressed upon the minds of students in smaller hospitals, than in those which are too large to be closely watched and carefully superintended in every part, and in which some minor points of immediate utility and advantage are apt to be postponed, for the sake of the larger but more distant objects which have been before alluded to.

It were little to be desired, therefore, even if it were possible, that the hospitals and schools of this metropolis should be in any way consolidated; nor would any privileges or immunities that could be conferred upon them, nor any appropriation of public wealth that could be made in their favour, nor any splendid results that might be obtained by forcing them to work, as a great machine, by general rules, none of these advantages would afford sufficient reason for

consigning them to the care of the general government. In our soil these institutions flourish best when raised and when supported by voluntary charity. Let them not be withdrawn from the management and superintendence of those whose liberality has raised or fostered them, and whose watchful care has made them what they are.

We hear much in the present day of the spirit of *centralisation*; and, if we look around us, we see this system established or in progress amongst other nations. In countries where the ruling power is absolute, and every public interest becomes an affair of state, it is natural that the maintenance and direction of the public schools and hospitals should be wholly in the hands of Government. Under a popular form of government it would seem, at first sight, that this should be less expected; and yet it has been clearly shown by modern political authors (I think by M. De Tocqueville), that where the democratic power is in the ascendant, there, too, the tendency to centralisation becomes again apparent. It is only under a moderate or well-balanced form of government that men are left at liberty to establish their own charitable institutions, to work them out for themselves, and to distribute their very alms in what manner they please.

There is danger, therefore, to the liberty which we enjoy in these respects, under our own mixed form of government, from two sources, one on either side. But we trust that Providence, which has carried us safe through many dangers, will continue to steer the British bark in that secure and happy channel which lies between the rock of absolute power on the one hand, on which our liberties might be wrecked, and the whirlpool of democracy on the other, in which they might be absorbed and swallowed up.

Are these remarks irrelevant? I should plead guilty to the charge if proposals had not been frequently made of late to call in the aid of the Legislature for the regulation of hospitals and of medical education, and to commit the management of them to the executive power of the Secretary of State. Yet experience has long since learned, and has expressed this truth by an apposite fable, that the power of a master, called in for a special purpose, may not be so readily shaken off when that purpose has been answered.

It is far more suitable to the nature of our institutions, to their spontaneous origin and self-acting energy, that the sources of charity should not be forced or constrained, nor its streams confined within particular channels, but that they should arise of themselves out of the abundance of the rich, and flow as they are called for by the wants of the poor; thus carrying blessings and fertilising our land by a natural rather than an artificial course.

Such being the principles on which the hospitals of this country are, for the most part, founded, I believe that the circumstance of being connected with them imparts much of its truly practical character to British medical education. And this brings me to the principal topic on which it is my duty this day to address you—the subject, namely, of medical education. We have seen that the business of education is not incompatible with the first objects of a hospital, and that it may be carried on effectively in a hospital no larger than our own. So that, for the purposes of clinical instruction, it is neither necessary, nor in all respects desirable, to adopt a system of centralisation, like that which has been adopted in some foreign capitals.

Let us now consider what are the proper characters of medical education, both generally and professionally.

I take it for granted, that the education of any particular class should bear a certain relation not only to the amount of knowledge required for that class, but also to the existing state of general society. Now, in order to suit the temper and feelings of our own country, and to be adapted to the spirit of the age we live in, I think it will appear that medical education should possess the double character of comprehensiveness and of practical utility—of comprehensiveness greater than at any former time, and yet with no less devotion to its proper objects.

There is scarcely any subject to which greater attention has been paid of late than to that of education. Education has been the theme of books and lectures, of conversation and debate: in the library and in popular assemblies, by the domestic fireside, and in the council-chamber, it has been discussed by philanthropists and political economists, by the anxious parent and by the busy statesman. The great improvements and the wide diffusion of education in modern times have attracted this large share of public attention; and public attention fixed upon the subject has tended to diffuse education the more widely. In our days the children of the lowest orders are, in some points, more highly educated than were those of the independent gentry and even of the nobility in the 14th and 15th centuries.

The question naturally occurs (and to *us* it is a question of the greatest interest), Has medical education kept pace with general education, and with the professional training of other classes?

I answer, fearlessly, it has. For to whom should we look to decide this question? Not to the gifted few who spring to eminence in every age and from every soil, through their own native energy, with any or with no cultivation; not to them should we

look, but rather to the general body of the profession. For the business of education is with ordinary men; and it is in the comparative state of the mass of mankind that its effects are rendered the most apparent. Now, has any class of men advanced more rapidly within the last half century, than the *general practitioners* of this country? Assuredly they are not behind the age: so great has been their progress in various parts of knowledge, that this circumstance in part accounts for the desire which we sometimes hear expressed, that all branches of the profession should be united, and that something like equality should be established between them. But such wishes are vain! such schemes are nugatory!

The shortest theoretical answer to any such proposal appears to me to be, that it must be unjust either to the profession or to the public. To the public, if the highest qualifications are to be demanded from *all* legal practitioners, thereby making over the private treatment of the poorer classes, who cannot remunerate such high qualifications, to the hands of unlicensed and incompetent persons. To the profession it must be unjust, if the qualifications and attainments of its highest orders are to be lowered to an uniform standard, thereby depriving it of much of its learning and its science, those springs which elevate its position in society, and keep it raised above the level of a trade.

The practical answer, however, is, that such schemes are quite impossible: uniformity and equality are acknowledged neither by laws divine nor human. No one should know this better than members of our profession, well versed in the laws of life and in general physics: for nature herself, by all her infinite variety, rejects uniformity as inadmissible into the works of creation, and, by her ascending and descending scales of organisation, condemns equality as contrary to the designs of the great Creator.

But these remarks apply only to the *practice* of our art, not to the mode in which it should be *learned*. In practice the division of labour to a convenient extent, and devotion to, and consequent eminence in, particular pursuits, are so natural and so generally beneficial, that whatever may be said to the contrary by ambition, envy, or discontent, they must and will exist.

Professional education, on the contrary (upon this there is no dispute), may and should be uniform *up to a certain point;* and this point varies according to the amount of knowledge possessed at different periods. In the earliest times, when the knowledge which men possessed of the healing art was small, education was *wholly uniform*, for the very reason that so little was known: nor could the art be then divided into different branches. The Podalirius and Machaon of the heroic ages, and even Æsculapius himself must, if the expression may be allowed, have been general practitioners.

Afterwards, increasing knowledge caused the division of the art into different departments, and education was then more particularly directed towards one or other of these departments, often, it must be confessed, by too narrow and direct a route. But this proves, not that the art should not be divided, but only that those who so narrowed education were not possessed of general principles, nor able to take comprehensive views; for, in proportion as we ascend to higher elevations of knowledge, we can see the more clearly that the ramifications of science are united at their source. Thus, the discoveries of Hunter, developing the general laws of life in health and disease, were calculated to unite medicine with surgery; but it was in principle only, not necessarily in practice. Thus, also, the further observations which have since been made in morbid anatomy, have tended to the same result, by showing that the commencement, progress, and effects of inflammation, and of other morbid states and processes, are both, in external and internal parts, alike in essence, and conducted by nature on the same identical plan. The establishment, therefore, of such general principles, together with the concurrent aid of an improved state of education, enabling all to apprehend those principles the more easily, these concurring circumstances seem to be bringing us back to the very point from which we started in the earliest times; namely, to a reunion of all branches of the profession. But this retrograde course would, as I think I have already shown, be erroneous as to practice, though right and proper as to education. Of education, therefore, let the foundations be not only deep, but let them be also wide and ample; for otherwise the superstructure, which may justly be intended to taper gradually to a point, yet cannot be large in its dimensions, nor lofty in its height.

Therefore, before the time of entering upon the curriculum of professional study, the mind of the student should be well trained by previous exercise of various kinds; for otherwise, it will be impossible for him to obtain the palm of excellence in his own arena, much less to conciliate the favour of society by the grace or dignity of his deportment.

The plausible position, that "study concentrated in one pursuit gives the fairest chance of excellence in it," has been shown to be quite untenable by an admirable writer on the subject of education. He observes, that "of the intellectual powers the *judgment* is that which takes the foremost lead in life. *How* to form it to the two habits it ought to possess, of exactness and vigour, is the problem. It would be ignorant presumption so much as to hint at any routine of method by which these qualities may with certainty be

imparted to every or any understanding; still, however, we may safely lay it down that they are not to be got by 'a gatherer of simples,' but are the combined essence and extracts of many different things, drawn from much varied reading and discipline first, and observation afterwards: for, if there be a single intelligible point on this head, it is that a man who has been trained to think *upon* one subject, or *for* one subject only, will never be a good judge even for *that* one: whereas the enlargement of his circle gives him both knowledge and power in a rapidly-increasing ratio. So much do ideas act, not as solitary units, but by grouping and combinations; and so closely do all things that fall within the proper province of the same faculty of the mind, intermix with and support each other! Judgment lives, as it were, by comparison and discrimination."

But what is the utilitarian plan, the narrow scheme of mere professional education? "The physician that is to be, as soon as he can wield a spade, is to have his garden, in imitation of the great Sir Charles Linnæus, and vex the ground with his botanical arrangements. The culture of opium and rhubarb will be his first step to the prescription of them!"

With respect to such exclusive systems, it is well observed by the writer whom I am now quoting—"Of the professions, the medical owes the most to physical science. The physician, however, can receive from it only part of his facts, his data, the dead stock, as it were, of his knowledge. To be able to reason upon them, which is his best skill, he must have resorted to other and very different studies."

On the other hand, it is fairly admitted by the same author, and pointedly stated by him, that general education is to be considered as auxiliary to that which fits him for his particular station and duties in life. "No doubt," he observes, "it is a most substantial object with every man to be master of his profession. Competence of ability in it is his strict duty, and eminence in it his best ambition. He stipulates for so much: he has taken charge of a post, and has no option but to be upon it, properly armed and accoutred. Since his profession sets him in the eye of the public, every deficiency in it carries a more certain and a worse disgrace than a failure in other duties; and this measure of disgrace is right, because over and above the ordinary motives of right conduct there is the responsibility of a positive obligation, and the censure of public opinion to enforce it."

The remarks which I have quoted are so just and sensible, and at the same time so clearly and forcibly expressed, that they are well calculated to engage the attention of all, and to stimulate even the most sluggish disposition. But the active spirit of the times we live in gives them greater interest, and renders them even more stimulating. The world, like a mighty army, appears to have its seasons of halting and encamping; but surely *this* is a stirring time: the knowledge and the intellect of mankind are clearly now advancing forward. Never was greater exertion necessary in every class, in every individual, lest he should fall behind, and be distanced on the march.

The members of the medical profession have certainly not been inglorious in the advance of science. When we review their achievements and the discoveries which they have made, who does not feel his spirit roused, and emulation strong within him? For, let us look first to the finest, the most wonderful, the most mysterious part of organised beings—the nerves: these, in all their intricate but not irregular complexity, had lain for centuries open to the eyes of men, but scarcely to their understanding. They were like the characters of an unknown language, of which there was no interpreter. Small, at least, was the portion of this delicate machinery (that part only which belongs to some of the special senses), which could for a long time be traced or comprehended. But how much further has the 19th century penetrated into this beautiful but difficult subject! It has attached their proper meaning to parts which were before wholly unintelligible, and has discovered lucid order where confusion only seemed to reign. In what school should this interesting branch of physiology be regarded with greater interest than in this? Where should the progress which has been made in it excite a greater spirit of emulation? for it is inseparably connected with a name which once belonged to us. Even yet, though his presence be lost to us,—to us and to our school the name of Bell belongs.

But if much has been accomplished in this department, how much remains to invite our further inquiries! If it has been delightful to see how one line of a compound nerve serves to excite instinctive motion, or to convey to the muscles the mandates of the will, while another line of the same nerve is subservient to sensation, would it not be further interesting to discover where and in what manner these functions are originated and regulated in the nervous centres? how the telegraphic signals of sensation are reflected back to the spinal axis, and enabled to call forth automatic motions; to distinguish with greater clearness what parts of the cerebrum, cerebellum, and spinal column, are the organs of different functions; to observe how the systems of organic and of animal life are mutually connected; to trace the influence of the nerves on the vital motions of the heart, and on those of the respiratory organs, and the effects which they produce on the circulation in the capillary vessels; the manner also in which they promote and re-

gulate the various secretions and all the necessary operations of organic life?

If these, and many more such questions, appear to be difficult, let the progress which has been already made increase the ardour of our researches; let them not, at least, be deemed inscrutable, when so great an insight has been of late obtained into the workings of this wonderful machinery.

In former times the laws of *chemistry* seemed almost opposed to those of life, and chemical affinities and vital affinities were spoken of as incompatible; but modern ingenuity has shown how beautifully they are subservient to the assimilating and secerning processes, to the right composition and renewal of the blood. Much more, however, must yet be observed of the decay and repairs, the building up and decomposition of the frame. We must learn the manner in which aliment is formed and nutrition carried on; how *ingesta*, as they are called, of every kind, and superfluous parts of the body itself are assimilated and reduced into one homogeneous fluid; how even *inorganic* substances are taken into or formed in the blood, and play an important part in the preservation of its vital properties; how all the different secretions, acid, alkaline, neutral, saccharine, are produced in or educed out of *a single fluid*; how poisons may be absorbed, and, after lurking in the blood for a considerable time, may on a sudden corrupt the whole, or, after certain definite periods, may produce their specific effects in every part of the body. These, and many other pursuits and objects of animal chemistry, are of the very highest physiological and pathological interest. In our own country the name of Prout may well excite and animate to continued labour in this prolific field. How greatly also has chemistry enriched the treasury, or rather strengthened the armoury of medicine, by eliciting and concentrating the active principles of mineral and of vegetable nature. But how many are the combinations of nature's alchemy which have never yet been explored or analysed! How many salutary medicines may still lie concealed and folded up in plants that have not been examined by pharmaceutical chemistry!

Not curious only, but highly instructive are the displays which the *microscope* has made of the secret nooks and recesses of the circulation in the capillary vessels, and of its altered states and disturbances by congestion and inflammation. Is there not reason to hope that views more wonderful still may be disclosed by the same means? and that thus we may be enabled to see almost to the very points of contact, as it were, of the fluids and solids, to the extreme points, where an intimate union is formed between them. Still more, perhaps, is pathology indebted to the patient art of minute *injection*, by means of which the earliest germs of incipient disease appear to have been in some instances detected and made evident to our senses: for us these last pursuits may well possess peculiar interest, since the labours of Kiernan, which have accomplished much and promise more, have been in part conducted here, and have been illustrated and assisted by our morbid examinations.

If such and so varied has been the information obtained by these different methods of interrogating nature, may we not expect that more will be elicited by a combined use of them all? by the mutual aid and co-operation of the injecting syringe, the microscope, and the apparatus for chemical analysis?

Retrospects like these, and opening prospects like these, seem to invite us on to further discoveries: yet it must be owned that neither nature nor fortune will suffer *all* to be discoverers. But *all* may be practically useful: and its aptitude to make them so is, as I have already hinted, the peculiar praise of British medical education. This quality it owes, in part, to the circumstance that the teachers in our schools are themselves practical men, engaged, or intending to engage, in the active duties of their profession. Whatever may be the merit of schools, constructed differently in this respect, as to theoretical views, and as to extreme minuteness of teaching, yet hear the opinion upon this subject of one who has had great experience in such matters, and is himself one of the most distinguished ornaments of our profession, Sir Benjamin Brodie:—"I assert," he says, in a printed essay, "that ours is the better method with a view to the education of those who wish to become not mere philosophers, but skilful and useful practitioners."

According to this practical method (pronounced by so good a judge *the better method*), are all those subjects taught in our school which belong to the professional part of medical education. Anatomy, physiology, pathology, are taught, not merely as interesting branches of knowledge (although for their own sake they well deserve to be studied), but their utility is here shown, their indispensable utility to the physician and the surgeon, as the foundation of all medical knowledge, the very grammar and rudiments of the whole science of medicine.

Here, too, while the student may be charmed by the beautiful order and arrangements of botany, or astonished by the marvels of chemistry, that rapidly advancing science, which is daily adding mathematical exactness to changes wonderful as the fabled illusions of magic, while he may derive the utmost gratification from these sciences, he will be perpetually reminded, by the lecturer on materia medica and therapeutics, of their practical bearing, and of the assistance which they should be made to render to the healing art.

The lectures on the practice of medicine

and of surgery have no other object in view than to enable the student to learn the business of his profession, not in the lecture-room, where this is impossible, but where alone he can do so, in the wards of the hospital.

The art of midwifery is here taught in such a truly practical manner, as that the pupil may with confidence enter upon this interesting but highly responsible branch of practice; and for his right instruction and improvement in it the Middlesex Hospital offers peculiar advantages: it offers, besides, for his imitation, the bright example and useful career of one to whom our school is greatly indebted, one whom, I believe, I may justly call its founder.

Finally, the lectures on forensic medicine are designed not to gratify curiosity only, but to mature the judgment and perfect the knowledge of the student for the most trying and difficult situations in which a medical practitioner can be placed.

Thus the education which we here profess to give is practical in all its bearings. The general education of the student is not, of course, directly within our control. But it has been shown (satisfactorily I trust, although in a general manner, and without descending into particulars,) that it should be comprehensive, in order to suit the spirit of the present age, and to form a proper basis for the professional knowledge which must be reared upon it.

There is nothing but the diligent accumulation of general and professional knowledge, according to our abilities and our opportunities, which can lead to conscientious and honourable practice: for nothing else can create a perfect independence, and therefore foster a strong abhorrence, of all the arts of puffing and of quackery, whether evinced in false pretensions or in the profession of secret remedies. It is in these two forms, namely, that of boastful pretensions and that of professing some secret method of curing disease, that quackery is most commonly met with. And it is met with, unhappily, both within the profession and without. But whosoever pretends to skill or knowledge which he does not in his conscience believe that he possesses, is not a follower of Hippocrates, but of Paracelsus, the prince of quacks; and after the example of that arch-pretender, the putting forth of false pretensions is generally coupled with the still more mean and vulgar art, of depreciating or traducing others. But let him who is tempted to proclaim himself by interested boasting, be aware that, however he may deceive for a moment, and profit temporarily by his deceit, in the end he is almost certain to be exposed, and to be left without credit for truth or honesty, and with the discredit also of contemptible ignorance. For who shall give *him* credit for the possession of genuine goods who has stooped to set off fictitious wares?

The subject of secret remedies may require some further consideration; because, at first sight, it might appear to be perfectly right and natural that the discoverer of an improvement in practice should be allowed to derive from it all the advantage that he can for himself: and the custom of granting patents appears to add legal sanction to this notion; nevertheless it is repudiated by the better members of our order as totally at variance with its first principles, its honour, and its benevolent character.

Nor do these higher notions depend upon conventional rules and mere professional etiquette; but I apprehend that, however they may seem to be opposed to the natural rights of property, they may be traced to our positive duties, as men and Christians. As such, we are bound to do *all* the good we fairly can to *all* our fellow-creatures. And this duty is incumbent upon *all*. But what should we say of the divine who knew (if for an instant we may be allowed to imagine such a thing) a *secret* road to salvation, and would not earnestly point it out to all? And what shall we say of the professor of the healing art who boasts that he can cure disease, and will not freely tell us how? By the general voice of the profession such a man is branded as a pretender, or driven from our ranks as a traitor to our cause.

It can scarcely be doubted that if the inventor of vaccination had chosen to keep his discovery *a secret*, he might have realised by it greater wealth, than the gratitude of a nation at length bestowed upon him. But would the name of Jenner be loved and venerated as now it is?

Assuredly the high tone adopted by our profession upon this subject redounds to its credit, and tends to raise its estimation in society.

Having thus considered the manner in which medicine in all its branches should be studied, and the spirit in which it should be practised, I would address a very few words, on parting, to my younger hearers, on the advantages that may be expected from it.

I would say to those who are about to embark on their professional course, your happiness depends not so much on the prosperity of your voyage as on the nature of your objects and the elevation of your views. You stand on the brink of a smiling ocean, the waters of which, if you be attentive to your course, may waft you on to fame and fortune. But the tide of human affairs is treacherous, and the time when you may arrive at those rewards is uncertain. It may be late, it may be never. All that we can say is, that those who use the means of success will, in the long run, succeed.

But what if you change the nature of your adventure? What if you seek, not fame and fortune *only*, but the rewards of a good conscience. *If* you seek to benefit others, to extend science, to perfect your art, you will, as far as your own conscience and inward

satisfaction are concerned, be *sure* of a return. And this return is of such a nature that it cannot be wrecked. Then, when "your ventures are not in one bottom trusted," "the better part of your affections" may "be with your hopes abroad," and yet you may say, with Shakspeare's Antonio, your merchandise will never make you *sad!* Then, whatever fame or fortune you acquire will be doubly enjoyed, as superadded to your principal store: and you will have, besides, the solid satisfaction of knowing that they have been obtained by no art save that of doing good.

Let me now take leave of you for the present, by wishing you an improving and profitable, and then it will be a happy season. Be diligent, and you *will* improve: improve and, satisfied with your own exertions, you *will* be happy.

EXPOSITION OF A METHOD EMPLOYED FOR THE CURE OF CONSUMPTION, BY FRICTIONS WITH OLEUM ANIMALE FŒTIDUM,

CONNECTED, AS REGARDS THE PRINCIPLES, WITH THE "LARD-CURE" AND "INHALATIONS."

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We shall now pass in review the most frequent and important circumstances and remedies which have a direct and topical influence on the lungs, and by means of which a cure, or, at least, amelioration, has been observed in consumption.

1. That *climate* exercises a distinguished influence on the frequency as likewise on the course of this disease, is a fact which is established beyond all doubt. Even in ancient times some countries were known as the most proper residence where consumptive patients had a prospect of prolonging life, if not of an entire recovery of health. According to the testimony of Pliny and Celsus, the Romans sent persons of consumptive tendency to Egypt; where even now, according to Savary, this disease is said not to exist. In our times several parts of Italy enjoy a well-earned fame in this respect; for instance, Pisa, Rome, Messina, and Naples. The two former rank nearly equal. For patients so far gone as to be compelled to keep their room, a residence at the Lung Arno at Pisa, is by far the most propitious which Italy can boast, and has a European celebrity. Naples has not proved quite so favourable for consumptive individuals; its climate is somewhat of a more exciting character; it is, moreover, too much exposed to winds. Nice, sheltered from the north-winds by a high chain of mountains, has, on account of its warm but generally rather dry and exciting climate, proved very convenient for persons affected with bronchitis chronica, bronchorrhœa, and asthma humidum, but less so in cases of true tubercular phthisis, although it formerly possessed a celebrity to which it was not entitled. (Lasnyer, "Sur les Climats d'Italie, etc.," in Nouvelle Bibl. Médicale, Juillet, 1829. J. Clark, "The Influence of Climate in Chronic Diseases of the Chest and Digestive Organs," second edition, London, 1830.) In the west and south-west of France there are several places very healthy for consumptive persons, and amongst them the southern coast of Brétagne, and Pau at the foot of the Pyrenean mountains, are particularly to be distinguished. The south-east coast of France is decidedly prejudicial, on account of the sudden changes of temperature and the violent cold winds, particularly the mistral, which prevail there. Hières and its vicinity may, however, be excepted; being protected by a connection of hills from the north-east winds, it has the finest climate scarcely inferior to that of the above-mentioned places in Italy; Marseilles, Aix, and Montpellier, are much spoken of for their salubrity, though they are, in fact, undeserving of it. Consumptive diseases are prevalent in these towns, and in the hospitals of Montpellier, according to Fournier and Murat ("Topographie Médic. de la Ville de Montpellier," 1810), one-third of the deaths are caused by phthisis pulmonalis. In Spain, the province of Valentia is said to be advantageous to this class of patients. In England, Torquay, Dawlish, and Exmouth in Devonshire, as also Penzance in Cornwall, are distinguished on the south-west coast; and on the southern coast, Undercliff in the Isle of Wight, and Hastings on the coast of Sussex. In Ireland, the bay of Cork and Mallow are advantageously situated. In the northern part of the Atlantic, Madeira has obtained a great renown, and is become the subject of several monographies by Gourlay, Heineke, and Henton. Copland prefers it as a residence for phthisical persons to all the places of southern Europe: a Madeira house was, therefore, established at Bristol. After Madeira may be classed the Canary Islands, the Azores, the Bermudas, and Bahama Islands.

The beneficial influence of the climate of these places shows itself in the unfrequent occurrence of this malady amongst the inhabitants, as well as in the remarkable amelioration of the evil developed in those persons that flock thither from the north. Young people who, under rougher climates, were threatened with the approach of consumption, frequently there get rid of this tendency; and in others the disease itself, though far advanced, is often retarded for a time, and sometimes for years. Instances are not scarce of English patients in the last stage of the disease having taken up their residence

* Continued from p. 118.

in Italy, and arrived at a tolerably advanced age. Such a change of climate, indeed, was hitherto the only effectual remedy that could be adopted to delay the progress of pulmonary consumption.

These various places, so advantageous for phthisical persons, agree as to situation and climate in the following qualifications:—A situation near the sea, and within the middle of the temperate zone, consequently equal and warm in temperature; a position on the south-westerly foot of a chain of hills that are not too elevated, and by which they are sheltered from the violence of north-east winds; or a situation in a low, marshy, but cultivated plain; an air not too light nor too pure, but mild, rarefied by heat, and impregnated with aqueous and other not irritating vapours. This also corresponds with the early and pertinent opinion of Celsus, lib. iii., cap. 22, "Opus est longâ navigatione, cœli mutatione, sicut densius quam id est, ex quo discedit æger, petitur." We have here the cause why consumptions are comparatively scarce in plains and marshy countries, where, on the contrary, intermitting fevers are more common. It is on this account that Celsus recommends Egypt, that Pisa and modern Rome are frequented by this class of patients, and that such persons change Lisbon for the plains of Alentejo, and the mountains of the Libanon for the coast of Syria, though so ill-famed on account of its intermittent fevers. Marcus Herz (Hufeland, Journ., vol. xxxiv., fascic. 3,) is of opinion, that an impure air with many vapours is the most proper for persons affected with phthisis. Hennen ("Sketches of the Medical Topography of the Mediterranean, &c.," London, 1830,) observes, that in those parts of the Ionian Islands, which are most distinguished for their bad air and remittent fevers, the British troops suffered least by pulmonary affections. This fully agrees with the observation of Copland (Annesley and Copland, "Researches on the Diseases of India and the Tropical Countries, &c.," London, 1829). He had discovered that persons with a disposition for consumption, either inherited or brought on by an unfortunate conformation of the chest, were better off than other people in the most unhealthy places within the tropics; and that the most certain and beneficial remedy for such persons, as likewise for those in whom the disease had advanced into one of the earlier stages, consisted in a change of their home for the West Indies, where consumption of the lungs rarely exists, according to the testimony of all authors of medical topographies of these islands, as also of Southey ("On the Prevention, Causes, and Cure of Consumption," London, 1818). The impurity of the air, however, must not arrive at such a degree and quality, that it irritates the lungs and acts disadvantageously on the whole constitution, which is the case with the malaria in various parts of Upper Italy and Middle Hungary, and with the atmosphere in large towns. The universal use of coals, which particularly in England contain a great deal of sulphur, is possibly one of the principal causes of the excessive frequency of pulmonary diseases in London and other large towns of England.[1]

Where, on the other hand, the air is too pure and too cold, as on high mountains, or on some parts of the sea-coast, where violent and cold winds blow from naked or high chains of mountains, tubercular phthisis, as is universally known, pursues its irresistible and rapid course. No physician, therefore, will think of sending such patients into Switzerland or to Genoa.

As the difference of climate so the change of temperature has a considerable effect on the course of consumptive diseases. Phthisical patients are better off during summer and autumn than in the winter and spring; they are best off in warm and moist weather, when south-west winds prevail, or south-easterly winds in those parts where the scirocco predominates; their health suffers most in a cold, dry, and pure air, and under the influence of northerly or easterly winds. Under these latter circumstances their dyspnœa increases, respiration is accelerated, and cough, painful sensations in the chest, and fever, are on the increase. But when the weather changes into the opposite—which would be prejudicial to the euphoria of healthy persons—the dyspnœa of consumptive individuals will diminish, their inspirations become deeper, more complete, and less frequent, and an abatement will take place in the cough, the pains, and in the fever.

It results from all these facts, that a diminution in the respirable qualities of the air, as well by its expansion through heat as by the augmentation of its irrespirable, and, at the same time, not irritating components (p.e., aqueous and other vapours), is advantageous, and that the consequent diminution and difficulty of respiration delays the progress of the pulmonary affection, and possibly may effect a cure. The reverse is said to take place in the spurious phthisis and several sorts of asthma; a residence in the mountains where the air is cool and pure is most proper for patients of this particular class.

2. *Sea-voyages* were much recommended by the ancients, and in modern times the English have had frequent opportunities of experiencing their decided effects. These advantages are not solely to be ascribed to the exhalations of the sea and the change of climate, but to the sea-sickness and its formation, and, likewise, to the atmosphere peculiar to ships, and impregnated with vapours of tar, pitch, and other substances.

3. Sydenham had great confidence in the exercise of *riding on horseback*, and believed it to be as certain a cure for consumption as mercury is for syphilis, or Peruvian bark for

fever. This passive motion is not only capable, like any other bodily exercise, of consolidating general health, but, moreover, it acts beneficially on tubercularly-affected lungs, as it produces a difficulty of respiration in a direct and beneficial way, namely, by overfilling them with air, without impelling congestions of blood towards them. In general, as exercising the lungs is the best prophylacticum, riding on horseback must have this additional advantage, that, besides its profitable local action on the lungs, it likewise has a salutary influence on the whole constitution.

4. Long experience has proved that several *occupations*, particularly those exercised amidst animal exhalations, hinder the development of tuberculous phthisis. We seldom discover this disease amongst butchers, dairy-maids, herdsmen, tanners, manufacturers of gutstrings, &c. Stopping in cow-houses has been thought advisable by many physicians, and frequently attended with beneficial effects. (Read, "Sur les Effets Salutaires du sejour dans les étables, etc.," Londres et Paris, 1776.—Triller, "De Nova Nitida Phthiseos Curandæ Methodo per vetera Olida Pecorum Stabula," Wittenberg, 1775.—Bergius, "On the Cure of Consumption in Cowhouses, &c," in the New Treatises of the Acad. of Science, vol. iii., Berlin.) This, therefore, is become an almost popular remedy, and by the poor it may be viewed in a similar light as travels to Italy, &c., are by the higher classes. Stables for horses, where we often meet consumptive persons, possess no beneficial influence, probably because they develop much fluoric acid, by which the excrements and exhalations attack the respiratory organs. Living much in the shambles of butchers, or frequenting their slaughter-houses, has been recommended to consumptive persons, for the same reasons which render cow-houses beneficial.

5. It has been commonly remarked, that phthisical persons feel much alleviation in sulphureous and gaseous baths. This has been particularly observed at Eilzen, Nenndorf, Aix-la-Chapelle, and Baden near Vienna. Beneficial effects have likewise been obtained from inhabiting forests of firs and pines. Galen sent persons affected with pulmonary complaints to the vicinity of Vesuvius, to inhale there the sulphureous vapours that rise out of the soil. The English particularly have made frequent experiments on the advantageous sojourn of such patients in the neighbourhood of dock-yards. In imitation of all these observations, a variety of fumigations and inhalations of divers sorts of gas have been tried in the treatment of this disease. The inhalation, likewise, of the steam arising from fresh ploughed ground has been recommended; but it is evident that patients, in following this advice, will draw as much advantage from the increase and reinforcement of inspiration, as from any peculiar qualities of the earthy vapour.

Hufeland and Kortum ("Hufel. Journ.," 1827, fasc. 3,) have called the attention of the physicians to the possibility of making use of those sorts of gas which develop themselves from natural mineral waters. Zaegel ("Hufel. Journ.," 1827, fasc. 5,) not only asserts by this means to have effected a complete dissipation of tubercles when still crude, but even hopes for a favourable result in cases of ulcerations of the lungs.

But not all the experiments to imitate these natural evaporations, by an artificial development of various kinds of gas, do answer the expectation. This pneumatic treatment of consumption was principally adopted towards the end of the last century on the recommendation of Beddoes: he chiefly applied carbonic and hydrogenic gas. His having procured a lasting or temporary relief to many persons, is less to be ascribed to the peculiarities of these species of gas, than to the influence of the reinforced inspiring treatment in general. It was without doubt a wrong principle on which he founded his belief, that consumptive persons were hyper-oxygenated, because, namely, their cheeks and lips were red. His method has long since been forgotten; but, owing partly to its occasional favourable results, and, on the other hand, to its general unsatisfactory efficacy, it has given rise to other experiments with pneumatic modes of treatment. All the ways, however, that have been proposed for this purpose, are, in general, liable to one common objection, viz., that they are either much too irritating, or that they were applied in an improper and too concentrated manner; because more was expected from their positive than negative qualities. This is the case with inhalations of oxygenic, carbonic-hydrogenic, and hydro-sulphuric gas, as well as with the various sorts of fumigations and other methods of employing vapours. Although, for instance, Pagenstecher ("Hufel. Journ.," vol. lxv., fasc. 5,) asserts to have cured a phthisis purulenta conclamata by the use of vapours of boiling tar, yet, in general, more disadvantage than favourable effects have been obtained from this treatment. Besides this remedy, tar-water, the Mecca balm, sulphureous ether, and even sulphur-and-lead vapours have been proposed. The recent enthusiastical praises of French physicians (Gannal in the "Journ. Complem. des Sciences Médicales," Sept., 1828,) of chloric gas for inhalations in consumption of the lungs, have not at all been justified by later results, according to the numerous experiments of Talmouche ("Archives Géner. de Méd.," 1834, Avril). This physician, on the contrary, has found these chloric inhalations very beneficial in cases of catarrh and bronchorrhœa. Scudamore ("On the Inhalation of Iodine and Conium

in Tuberc. Phthisis," 2nd edition, London, 1834,) has applied iodine for inhalation, and states that he has frequently observed a favourable effect. But as the dose (gr. v iodine and gr. ij hydriod. of potash, in ℥v dist. water, and ʒij tinct. of conium,) was extraordinarily small, the results of his experiment may with as much justice be ascribed to the hot aqueous vapours, and the other components of that mixture, as to the iodine.

Finally, vapours from infusions of the most different substances have likewise been made use of. These moist vapours have hitherto been prepared, partly with aromatic and balsamic herbs, in the expectation thereby to correct the secretions of the pulmonary ulcer, and to promote its healing process; and partly emollient and narcotic substances were resorted to, in order to remove the irritation which exists in the respiratory organs, to diminish the cough and to promote expectoration. To attain these objects, althæa, tussilago, veronica, chamomile, malva, sambucus, milk, hyoscyamus, belladonna, stramonium, cicuta, and even prussic acid, were chosen. The inhalation of such less irritating vapours was particularly spoken of by Bartholin ("Hist. Anat.," cent. iv., hist. 88, lib. iv., "Pulmonum remedia quomodo adhibenda"), and by Buchoz ("Treatise on Consumption of the Lungs," translated from the French into German, 1770). Latterly, Scudamore has made several fortunate experiments with these narcotic vapours.

These of all sorts of artificial inhalations have certainly produced the best effects in phthisis: they, nevertheless, are now seldom resorted to. Their salutary influence was hitherto explained to arise from the peculiar physical and medical qualities of these different substances; it was believed, that they acted on the lungs as dissolving, or strengthening, or calming, or emollient, relaxing, &c. But as the beneficial operations of all these inhalations, whatever their ingredients be, are nearly equal (provided they be not of an irritating quality), we must necessarily ascribe them to this very circumstance common to them all, namely, that they do not irritate, as likewise, and chiefly, to the warm aqueous vapours which equally belong to each of them. The explanation, therefore, which has been given under No. 1, of the causes of the influence of climate and temperature on consumptive persons, finds here a proper application. What nature effects there on a large scale, the physician here imitates on a smaller one. As in particular places under a warm sun, the air is rarefied by various, often mephitic, exhalations, so, by means of the aqueous vapours of Mudge's machine, particles less fit for respiration are conveyed to the lungs, which thereby are compelled to extend themselves more frequently and widely.

6. *Greasy frictions* have been much praised by the ancients, and unctions in general constituted an important part of their mode of life and their gymnastics. Celsus repeatedly recommended them, p. e., "Si infirmior est, gestari, ungi, perfricari, sic ut interdum oleo quædam adjiciantur calefacientia."—Lib. iii., cap. 22.

Latterly, most remarkable effects and very frequent cures of phthisis have been observed to take place in consequence of *perfrications with lard*, first recommended by Dr. Spillsbury. (Lancet.) The explanation of this notable method of cure can no longer be difficult, if we bear in mind and consider from the right point of view all the circumstances mentioned in the preceding sections (1 to 5), under which cures more or less perfect have been obtained, and the mode in which these circumstances operate. I am convinced that the prosperous results, effected by this treatment with lard, can be ascribed to two causes that act in concert. In the first place, the pores of the skin are closed by these greasy frictions; the functions of these spiracles are suppressed and obstructed; those of the lungs are antagonistically excited, and, consequently, inspirations are increased and reinforced. But, secondly and principally, the remedial power of frictions with lard appears to be founded on its direct and local action on the lungs. Although no particular and undecomposed fat or oil-gas is acknowledged by chemistry, yet peculiar evaporations of pork's lard, and particularly of such as is in a rather empyreumatic state, do exist, and are very perceptible by the smell. These, when inhaled, form on the inner surface of the lungs a thin greasy cover, which, as on the exterior skin, hinders absorption and secretion,* and therefore impedes the ordinary action of the oxygen on the lungs. That, nevertheless, the necessary changes may be effected in the blood, a greater quantity of air must now be inhaled by means of more frequent and deep inspirations, whereby the healthy air-cells of the lungs will be emphysematically expanded; whilst the morbid and impervious portions of the lungs, on the contrary, undergo a compression and approachment that leads to cicatrisation. It is, moreover probable that, besides this mecha-

* It is known that all oily and greasy substances are impenetrable to the greater part of external influences; they are impervious to water and air; and it is to be noted that, at the same time, they are bad conductors of heat, and amongst the best isolators of electricity. They are, therefore, frequently made use of for preserving such substances as would be decomposed by the free admission of air; and they likewise have proved the most excellent protection against contagious diseases, principally plague, yellow fever, and scarlet fever; as was first observed by the circumstance that oil-carriers in Egypt were exempt from the plague.

nico-chemical action, the fat possesses a dynamic influence on the pulmonary ulcers, as well as on all the diseased parts, by its involving, smoothing, and softening powers.

The correctness of this explanation is proved by the symptoms which accompany the application of such unctions. Patients under this treatment complain of a stretching and troublesome sensation across the whole chest, as likewise of oppression and difficulty of breathing, and their respiration is evidently going on with greater exertion, but deeper; the quantity also of expectoration is quickly and considerably diminished.

My own method.—The *oleum animale fœtidum*, fœtid animal or hartshorn oil, which in the manufactories is prepared, on the dry way of distillation, from various animal substances, principally from hartshorn, and is of a thickish oily consistency, possesses a most penetrating and suffocating smell, which, however, is by no means sharp or irritating: nor does it excite the cough like the smell of ammoniac, sulphur, smoke, or creosote; on the contrary, in spite of its intensity, it is extremely mild and mellow; a quality which it has in common with the kindred smells of putrid carcasses, rotten vegetables, and, in general, of simple mephitic evaporations. Though in the beginning extremely offensive to the patient, he gradually becomes accustomed to it, and no longer suffers any great inconvenience.

These peculiar evaporations of this oil are those which have been used in the cases described in the first chapter, or alluded to in the other parts of this treatise. No artificial inhalation being required in this method, it follows that the lungs are not irritated by violent inspirations. On the contrary, the involuntary inhalation, which takes place by this method, of the oily particles, keeps off all exasperation from the lungs, and diminishes the cough to a considerable degree already within the first forty-eight hours. At the end of eight days, and frequently even before that period, but sometimes later in cases of a considerable extent of destruction in the lungs, the patient feels an oppression of the chest, and a difficulty of breathing. This sensation is so trifling in the beginning, that the patient is only aware of it, if other persons direct his attention to this sensation: but it gradually increases to such a height, that the patients complain of it so much that it is sometimes difficult to induce them to continue to endure this most troublesome effect of the oil, but which is absolutely indispensable for the radical cure of the disease. The approach of this sensation may be predicted long before by the previous changes of respiration: for the inspirations become deeper and more complete in the first days, and in proportion to the increase of difficulty of breathing, the inspirations will be effected with an increasing effort, and to a depth uncommon with such patients, yet without exciting the smallest cough. All the auxiliary muscles of respiration are brought into play; and it is thereby that the thorax, which before used to remain almost rigid and unchanged during the act of breathing, now regains its moveableness and extensible faculty.

The natural consequence of the mitigation of the cough, and of the diminished irritation of the mucous membrane of the lungs, is a great diminution in the quantity of expectoration, which at the same time is effected without exertion. The discharged matter gradually loses its former purulent quality, and after some time differing according to the peculiarity of the case, it merely consists in a simple catarrhous secretion: there at last remains only a dry cough, which appears merely by rare fits, and is no longer accompanied by any expectoration. Corresponding changes take place in the general state of the patient.

But the speedy effect which this remedy has on the pulse is particularly remarkable, its quickness diminishing within the very first days. The exacerbations of the fever and the colliquative symptoms cease, appetite reappears, and the nutrition of the body keeps pace with it. Between the third and the fifth week a cough, accompanied by spitting of blood, makes commonly its appearance in such patients as had formerly been affected by such sanguineous ejections; the oppression becomes stronger, and, in general, signs of a congestion in the lungs manifest themselves. But blood is only thrown up in a small quantity, and merely forms single streaks or small lumps; nor is this spitting of blood accompanied with any inflammatory symptoms, except in particular cases. When the strong asthmatic attacks which increase during these days are past, and the congestions towards the lungs have been successfully removed, the blood, whose circulation encounters some resistance in the organs of respiration, takes a totally different direction, and collects itself in the gastro-hepatic system, and in the lower abdominal organs: for the patients then complain of repletion in the epigastrium, of pains in the reins and the right hypochondrium, which cause a sensation as if it were blown and swollen.

These symptoms sometimes last for a considerable period, and in two of my observations a sort of cardialgia had thereby been formed. At other times a remarkable alteration in the colour of the skin suddenly takes place, even in the space of a single night. Persons who had a pale red or a dazzling white colour all at once change it into a yellow grey or earthy fallow cast, and black rings appear under the eyes and round the mouth. This phenomenon, so interesting in pathological respect, is followed by a considerable alleviation of the asthmatic complaints, and the disfiguring colour of the skin gradually and totally disappears. There are instances where this fallow and earthy

colouring does not come on suddenly, but slowly and less sensibly; but I, or persons who visited the patient more rarely, almost always remarked the change. I have in several cases observed menstruation which had ceased for years, to reappear during the application of these oily frictions; and this return always contributed considerably to the progress of convalescence. A vesicular eruption, which about this time appears on the chest, and is attended by a troublesome and violent itching, is, I think, of no essential importance, and may be regarded as the mere consequence of the local application of the remedy. The results of the physical examination of the chest during and after the cure principally consist, as to percussion, in an increase of the sonorousness of the chest in its diseased as well as healthy parts; whilst, as to auscultation, there is a diminution of the respiratory murmur in the healthy portions, and a simultaneous augmentation of the same in the vicinity of the parts degenerated by tubercles, even if this murmur had been before altogether wanting there.* All these signs prove an enlargement of the thorax before flat and sunken; an improvement as to its mobility, a corresponding expansion of the lungs by means of the dilatation of their cells formerly compressed, and the entrance of the air into such parts of the lungs as before were totally impervious to it.

All these combined phenomena, which are brought on by the frictions with animal fœtid oil, evidently show that this remedy cures pulmonary phthisis, by producing an asthmatic state. This state, as in chronic catarrh and in common asthma, consists in a dilatation of the pulmonary air-cells, whereby, on the one hand, a greater quantity of air can be received into the lungs; and, on the other hand, those diseased parts which are impervious to air, for instance, the not yet excavated tubercles are isolated, compressed, and either become cartilaginous, and are consequently rendered innocuous, or are absorbed; whilst the parietes of the excavations that were already formed approach each other, and finally heal. We therefore may compare these remarkable effects of this oil with those of the plaster-strips of Baynton in external ulcers, as we may also consider this method of oily frictions as a sort of combination of what is useful in the method of Dr. Ramadge as well as the treatment with lard.

For the organic changes which I have mentioned as taking place during this treatment in the pulmonary tissue, are chiefly to be ascribed to two causes, by the first of which the advantageous consequences of Dr. Ramadge's method of inhalations are gained quickly, and without drawback, whilst the second secures those which are offered in the treatment with lard. The first cause, namely, consists in the peculiar, strongly-penetrating, and, nevertheless, not irritating evaporations of this oil, for these impregnate the air to such a degree, that it no longer remains sufficiently fit for ordinary respiration and its ends. In order, therefore, to effect that change in the blood which is necessary for the animal economy, what is wanting in the quality of the air must be supplied by an increase in its quantity; and to obtain this object the inspirations must be reinforced, and consequently the pulmonary cells be dilated. The second, and, perhaps, the principal cause by which this oil produces the said organic changes, and the beneficial asthmatic state, is, that the inhaled vapours serve to deposit on the respiratory surface of the lungs a thin, greasy stratum, by means of which the free access of the atmospheric oxygen to, and its full influence on, the blood, is lessened and somewhat impeded, and more and deeper, are necessarily brought on to fill up this deficiency.

It is most probably owing to a similar compulsion to reinforce inspiration, that after a chronic bronchitis, particularly if it has its seat in the subtle bronchial branches and air-cells, an analogous change of dilatation, namely, the emphysema cellulare of Laennec, is produced in the air-cells; and that in many cases of phthisis, principally, if they assume a chronic character, a puerile respiration is audible in the healthy parts of the lungs, and a dilatation of the air-cells, arising from the remedial effort of nature, is discovered in these parts, if a bronchitic irritation has extended there; for the respir-

* By this decrease of the respiratory murmur in the healthy parts of the lungs, which comes on so quickly and without the symptoms of a bronchitis, the explanation appears to be confirmed which Stokes ("Treatise on the Diagnosis and Treatment of the Diseases of the Chest," &c., Dublin, 1837, translated by G. von d. Bush, 1837,) gives of the pathognomic symptoms of the emphysema of Laennec. He argues that the respiratory murmur, being produced by the dilatation of the pulmonary cells, must be smaller when these cells are already expanded in their quiescent state, and consequently can merely receive a comparatively small quantity of air during the act of inspiration. This feebleness of local respiration and its murmur is in a different manner explained by Laennec, namely, as affected by a thickening of the mucous membrane, in consequence of the bronchitis which had preceded. But, in the first place, this cause, as given by Laennec, is, it appears, incapable of producing a sensible change in the respiration, without diminishing, at the same time, the clear sound audible on percussion; secondly, in our cases such a deviating organic formation (viz., the thickening of the mucous membrane) could certainly not take place in so short a time; nor did it so at all, as is evident from the absence of the other signs of bronchitis.

ing surface being obstructed in its functions by the thickening of the mucous membrane, as well as by the secreted phlegm, or being lessened in extent by the tuberculous destructions, nature feels and complies with the necessity of taking in a greater quantity of air.

Beside these principal influences of the oil, there is another one of no small importance. All the observations, namely, which I have communicated in the first chapter, and on other occasions, agree in showing not only that this remedy has no irritating influence on the lungs, although it so considerably aggravates respiration; but that over and above this mechanico-chemical effect, even a calming, and, as it were, narcotic virtue, may be ascribed to its evaporations, because this appeasing influence on the cough shows itself very soon, and long before the above stated organic changes in the pulmonary web can take place.

CHAPTER IV.

ON THE MODE OF APPLYING THE OLEUM ANIMALE FŒTIDUM IN CASES OF CONSUMPTION.

This mode, simple as it appears, requires on the part of the physician the greatest attention and circumspection, and on that of the patient much perseverance, on account of the many accompanying hardships; even the choice of the measures, preparatory to the commencement of this treatment, often forms a difficult problem. It is evident that this remedy ought not to be applied as long as the pulse is strongly agitated, and at the same time strained and hard, the cough too frequent, short, and dry, and carrying up merely some frothy phlegm, the respiration uncommonly accelerated and short; as long, therefore, as there exists a real inflammatory state of the respiratory organs. Under these circumstances the remedy would not only have no beneficial effect, but might easily aggravate the malady. All considerable inflammatory irritation, therefore, must be first removed by energetic, though at the same time circumspective antiphlogistic treatment, and if possible by venesection. But, as soon as the irritation is successfully subdued, the real cure must immediately be commenced, lest a new inflammatory attack might occur, as it likely would, in consequence of the ulterior progress of the local affection.

In the first place, the choice of the sick chamber is of the greatest importance, not only as regards the quickness of the cure, but as to its ultimate success. The room should be as small as possible, and particularly low in the ceiling: it must have a southern aspect, be easily heated, free from any draught of air, and the fewer doors and windows the better. The cure succeeds best during summer, for the temperature of the room must always be kept between 18 to 20 degrees (Reaumur). The air is never or rarely to be renewed, and if it is, only gradually; the windows are consequently never to be opened, and the door as seldom as possible: for, if the air is not always and completely impregnated with the evaporation of the oil (which is best promoted by heat, and only possible in a small and low place) the remedy cannot effectually exert its influence, and will not offer a sufficient and continual resistance to the progress of the disease. It is true, that a slight oppression and a proportionate diminution of the cough and expectoration, as also a somewhat slower and fuller pulse, will be perceivable, even though the evaporations are only few and weak, but such an amelioration will be but of short duration, and the unresisted disease will hasten to a fatal end.

The most proper mode of application of this oil is in form of frictions on the chest. The natural warmth of the body will keep up a steady and equal development of the oil vapours, which, rising from the breast and from under the clothes up to the mouth, must be necessarily inhaled at every inspiration. For this purpose the entire chest must be rubbed twice every day, morning and evening, with the oil, and be covered with a large piece of soft sheep-skin leather, to prevent the body-linen being unnecessarily soiled. In the first days one drachm or one and a half drachm should be employed for each perfrication; a smaller quantity will suffice as soon as the skin and the leather have been thoroughly penetrated by the oil. The patient may keep his bed during the cure or not, as his strength permits; he must, however, continue in the room, and not leave it under any pretence whatever; and though the difficulty of respiration arising from the suffocating air may create a great longing for a fresh breath, the bed and body-linen must be rarely changed, or rather not at all. Cleanliness is, unluckily, little recommendable during this treatment; it is not even desirable, and rather detrimental. The clothes should hang loosely on the chest and neck, which must not be covered by any handkerchief, &c., that could in any way impede the inhalation of the oily vapours. For this reason the leather and clothes must be frequently lifted from above, below the neck: nor should the clothes be many or heavy, which is, moreover, unnecessary, on account of the warm temperature, which, as before mentioned, is always to be kept in an equal state in the chamber. If the patient is in bed, a shirt or a shift, and at utmost a light night-jacket, are all that is necessary: if he is out of bed, a common dressing-gown will be sufficient.

The internal medical and dietetic treatment, besides the scrupulous attention to the several indications which in especial cases

may be pointed out by urgent symptoms, consists in the following rules :—

1. To impede and remove every excessive congestion towards the lungs, and to diminish as much as possible the irritation of this organ.

2. To favour the functions of the absorbent vessels, and to promote in the lungs the secretions, which are somewhat delayed by the use of this oil. This should be done by means of medicines that do not operate against the preceding rule.

3. The most difficult task is to conjoin with the first rule the third, viz., to strengthen the functions of general reproduction.

The nutrition, therefore, of the patient is an object to be particularly attended to : his food and drink must be light, and although strengthening still not too nourishing, and still less of an exciting quality ; whatever is acid and irritating is to be avoided. Thus soups of oatmeal or buck-wheat, groats, vermicelli, rice, pealed grain, sago, and potatoes, should constitute the principal part of his food. He may occasionally be permitted some light vegetables, which are not flatulent, as spinach, parsnips, boiled lettuce, carrots, &c. If there is no particular tendency to inflammation, animal food of a certain description may be recommended ; namely, tender and white flesh of poultry, or of lamb and veal. The most proper drink is water, sugar-water, decoction of boiled oats, milk, orgeat, and burnt rye ; coffee of any degree of strength is to be specially prohibited. In cases of great debility, a drink of cocoa and milk may be given. Beer, which is frothy, sour, or bitter, is always detrimental.

The above given second rule is best and safest satisfied by the continual use of muriate of ammonia and of tartar emetic, in small doses, and by an intermitting and circumspective use of digitalis. In order to appease an irritating cough, aqua laurocerasi, lactucurium, or hyoscyamus, are to be added to these medicines. Opium ought to be employed as the last palliating medicine, but never as long as there is a hope of saving the patient. A colliquative diarrhœa is best combatted in its commencement by leeches on the belly and by vesicatories. These remedies, though not operating quick, have a good effect. I have often found that nitre, in an aromatic water, was extremely serviceable against colliquative sweats.

When those changes appear which have been described in the preceding chapter, as brought on in the third or fourth week, the treatment is to be modified, according to the character and the violence of the symptoms. If there exists not only a considerable difficulty, but also a shortness of breathing and a short dry cough, if the pulse has increased in quickness and hardness, if, consequently, the congestive state of the lungs is bordering on inflammation, the sick chamber is immediately to be aired, the chest to be cleaned from the oil, and the frictions to be suspended for some days. A promotion of the stool by means of rheum will then, as also in the ulterior process of the cure, become necessary and salutary, in order to diminish oppression ; as also the abdominal molestations that are likely to make their appearance. But if a true inflammatory state has been really formed at this period, if the expectoration is coloured by blood, then, besides the above-mentioned remedies, a more or less energetic antiphlogistical treatment must be introduced, leeches are to be applied, and a small venesection resorted to, if necessary ; after which the interrupted frictions ought to be soon resumed. The greatest precaution is, however, necessary in prescribing such sanguineous depletions : for, to say nothing of their disadvantageous influence on the general constitution, they favour, by the ensuing debility, the progress of the pulmonary disease which they are incapable of opposing. If hitherto such a precaution was generally necessary in the palliative treatment of phthisis, it is much more so in this new method where the real cure is, as it were, altogether abandoned to nature, where all should be carefully avoided that could enfeeble her powers or disturb her salutary efforts, and where a certain degree of congestion towards the lungs appears to be necessary to promote in them the healing process, which is the aim and the result of a prudent treatment according to this method.

OBSERVATIONS
ON THE
FUNCTIONS AND CONNECTIONS
OF THE
NERVOUS SYSTEM.

By C. H. B. Lane, M.R.C.S., &c.

The nervous system is the great primary medium of animal life in all its detail, and as such has pre-eminent claim on the attention of the physiologist. The following views have resulted from much consideration on the subject, and will, perhaps, be found not totally devoid of utility and novelty.

Organic impressibility, or primary perception of stimulus, is the first essence of life ; even as cohesion, gravitation, bulk, &c., must be embodied, to constitute a subject for physical influence. At the moment the germ of life is implanted, a vis vitalis is instituted, which is capable of reacting on stimulation, whether extrinsic or intrinsic in its origin. The result of organic impression is organic action, the simplest product of vitality. Thus at the primary origination of the human being we have deposition of molecules, in which soon becomes centred a susceptibility of im-

pression. Under a certain allotted excitement these molecules enter into motion, assuming a certain definite arrangement and peculiar activity. Action itself then constitutes a stimulus additional to the extrinsic one, and the result gradually becomes more and more complex. The circulation originates in the punctum saliens; the alimentary canal gradually extends itself: they keep pace with, and are, doubtless, subservient to organic nervous growth. But while function rapidly supervenes on organisation in the ganglionic system of nerves, which is in immediate connection with the constituents of the human frame, it is otherwise with that part of the nervous system by which man has direct communication with external objects —the cerebro-spinal system. The activity of this has later date, like its organisation. It is not till the consummation of the first stage of human development that its activity becomes marked: as in the formation of an arch, the placing of the keystone renders it independent of extrinsic support; so the attainment of a certain point of development of the cerebro-spinal system is the signal for birth, for the commencement of independent existence. A new phase of life then begins, and the being enters on his preordained career of mortality. According to the principle which has been so ably demonstrated by Dr. Marshall Hall, the spinal centre is endowed with the power of exciting involuntary action in the muscles of animal life to a certain extent; and this is the case previous to birth, the conformation of the spinal cord being once completed. To this is owing the motions of the fœtus in the mother's womb during the latter months of child-bearing.

Thus the amount of vitality which is possessed ere the child exists, *per se*, is this; circulation, nutrition, and absorption are in action; secretion is established, and the alimentary canal is fully developed. At birth a vast revolution takes place in the animal economy; a more extended stage of action is entered upon. The excito-motor system now displays its most important function; the indirect stimulation of cold air is reflected to the respiratory muscles, causing contraction thereof, and, consequently, inspiration. Thus we find Sir C. Bell's respiratory tract included in the excito-motor system. By the establishment of respiration a different channel for the blood is formed, and it assumes a more stimulating influence. The peristaltic action of the intestines becomes more energetic, as likewise the secretive functions generally. A constant drain is constituted by the excretions, which, however, is greatly exceeded by the supply, and general corporeal increase is the natural result. As the action of the heart becomes more vigorous, the brain assumes more energy. Now become the centre of nervous power, it receives external impressions from the nervous periphery, and originates voluntary motion, which functions constitute animal life. Their excitability is at first vivid, but, at the same time, it is highly transient; which state gradually subsides, and is replaced by greater permanency of impression, which is the foundation of the axiom, that frequency of impression blunts perception, but improves the judgment. When a certain animal development is attained, moral and intellectual faculties supervene on cerebral organisation, exerting a varied influence on organic and animal life.

Thus both in the organic and animal nervous systems, sensibility precedes activity, and there is some correspondence between sensation and action. In the organic nervous system action is proportioned to the impression, and is its necessary consequence. In animal life there is also connection between sensation and action, but which widely differs in its development from that of organic life: sensation originates and influences action, but has no invariable result; for the impression being conveyed to or originating in the brain, that organ will always control and modify the result, constituting a laboratory, where analysis of the impression is performed with varied results, often merely mental. In both organic and animal life the current of innervation is originally from sensation to motion, but the reverse of that course subsequently becomes common.

Thus we have two distinct nervous systems in the animal frame. How are they combined? How is the unity of the body constituted? I believe that there is a communicating system of nerves which we may truly denominate sympathetic, by which connection is established between organic and animal life, and to this medium of relation we will now particularly turn our attention. The excito-motor influence is but a partial result of the sympathetic action, which links together the organic and cerebro-spinal systems, developing itself simultaneously with them. The stimulus of organic impression varying in nature and degree may be transmitted to the spinal centre, the influence of which induces involuntary contraction of certain muscles of animal life. Respiration and vomiting afford striking instances of the action in question, which is yet more strongly demonstrated in states of disease, hydrophobia, tetanus, &c.; in fact, including all involuntary actions that can occur in health or disease. Now, on the other hand, I do not believe that the sense of pain attendant on disease of structures, supplied for the most part with organic nerves, can be developed in the morbid structure itself: I believe that it is a reflected function, no less than the excito-motor, with which it may be considered analogous. I would suggest that on a certain degree or variety of organic action being instituted, the impression is transferred to the sentient nerves of animal life, and there developed, thus constituting

what may be termed an excito, or reflecto-sentient function. The point of manifestation being mostly a surface adjacent to the seat of disease, the site thereof is generally pretty accurately indicated.

It is well known—indeed it could not escape notice—that in many of the affections of the heart, liver, blood-vessels, &c., the pain does not occupy the same site as the organic morbid action, and its alien development has been termed sympathetic. Thus manifestation of exalted sensibility, in a true sentient surface, originates in, and is the reflection of, organic morbid action of the viscera: this I contend to be the general rule, and not the mere exception therefrom, as generally supposed; and this principle I consider advantageously susceptible of extensive and systematic application. The hypothesis in question will tend greatly to elucidate and direct therapeutic action, and I will now proceed to the discussion of the arguments and facts which support it.

The perception of impression necessarily constitutes the basis or essence of pain. When the first exists, the second may arise; for the one is but an exalted condition of the other: it is only, therefore, where perception of impression exists, that we are justified in expecting the localisation of pain, and that in a proportionate degree. In speaking of localisation of pain, I, of course, do not use the term in a positive sense, but merely in reference to the point of demonstration, which is but the extremity of the course of impression. Haller set forth a classification of organs with a special view to the vital endowment in question, which, however, has been long superseded by others, of which minute physical constitution is the gist. If we irritate a cutaneous surface, the impression is conveyed to the brain, and becomes apparent where it originated. But suppose some internal organ irritated, the function of which is not in immediate dependence on the great nervous centre, still we are told that its peculiar nerves constitute the channel of incidence and reflection of the impression: a mere assertion, for all experimental inquiry is opposed to the fact of their being sentient nerves under the ordinary acceptation of the term. There certainly is apparent sensation, and how is it to be accounted for. I believe the sensation of pain to be extrinsic far more often than intrinsic; that, as I have already mentioned, there is a peculiar function which associates organic impression with animal sensation. The impression, as in the former instance, is conveyed to the nervous centre, but is evinced in some true sentient surface, often in one contiguous to the seat of disease. Our positive knowledge of the extrinsic development of pain in some affections, establishes the claim of my theory to possibility, and I hope by dint of facts and argument to make good a strong probability in my favour.

Is it fair, as a general rule, to attribute to a structure in a state of disease a property of which there is not a vestige in a state of health? Disease, primarily, is for the most part but excess or diminution of the vital attributes. Many of the viscera, in a normal state, are decidedly incapable of sensation, in the ordinary acceptation of the term. Why, then, under the slightest functional derangement, are they to be considered to possess that property in an excessive degree? Surely it is more rational to consider the pain as not immediately connected with organic action, but as dependent on its reflection. When great deviation from normal structure occurs, I can imagine a new, intrinsic endowment to arise, not otherwise. Also I expect, when there is a state of great organic excitement in any of the viscera, the stomach or brain, for example, that extrinsic sensation may be more readily excited, even by direct mechanical irritation; still the sensation will not be intrinsic, but will require a true sentient surface, as the medium of development. There is abundant evidence of the non-sensibility of internal organs in a state of health; the proof of which, however, is more difficult, when morbid action is once established, owing to the simultaneous origination of exalted extrinsic sensation. Let us proceed to a cursory examination of some of the chief of the organs, which I believe unendowed with perceptive sensation.

It is a common exclamation of experimentalists, that they are surprised to find the internal organs evince little or no sensibility, however roughly handled. Magendie has long considered the brain as insensible. There is a striking instance, confirmative of this opinion, in THE LANCET, of Jan. 26, 1840. Mr. Roberts, of Caernarvon, in the hope, apparently, of proving the inutility of human brains, amused himself with stirring up, with a grooved director, that of an unfortunate patient, part of whose cranium had been removed by an explosion of gunpowder. The young man, who was perfectly sensible, experienced not the slightest local sensation, except at the cranial aperture. Another individual repeated the experiment frequently (not at Mr. R.'s request, however), so as probably "to make a regular puddle of the cerebrum"—the man recovered! The lungs, glandular viscera, and serous membranes, do not, according to the experiments of Haller and others, generally evince sensation; and in cases of protrusions of the alimentary canal, mechanical irritation does not, as a general rule, cause pain. It is well known that intestine in a hernial sac is devoid of sensation. We should be apt to consider the uterus as highly sensitive, looking at the pain attendant on parturition; but this idea is partly done away with on further consideration. There is little or no pain experienced in extirpation of the uterus. In

Duncan's Annals there is a case of eversion of the uterus after delivery: the viscus was totally insensible, and, in the words of the narrator, "the operation was over before the patient knew that it was begun." Similar instances may be found in the "Medico-Chirurgical Review," and other medical records. In cases where retention of the placenta renders the introduction of the hand into the uterus requisite, pain is chiefly experienced during the passage of the hand through the vagina. I am, however, far from considering the uterus as entirely devoid of intrinsic sensibility, but I do consider that its sensibility is, in a great measure, a reflected function. The sensation of hunger is, we know, generally localised in the stomach; a supposition which is probably fallacious. Nutritious injections into the rectum will relieve it, which can only be ascribable to reflected influence. In like manner nausea is referred to the stomach; whereas, according to Magendie's experiments, nausea and retching may be produced in an animal after the removal of the stomach, by injecting a solution of tartar-emetic into the veins. Again, the sensation of thirst affects the fauces and pharynx, to relieve which, however, the local application of fluid is not required. Dr. Gairdner found in the case of a man who had divided the œsophagus, that several bucketfuls of water were swallowed daily, and discharged through the wound, without allaying thirst, which, however, was found to admit of relief by injecting spirit and water into the stomach. It is a well-known fact, that in the East one of the best means of assuaging thirst is by soaking the feet in water.

We will now turn to morbid states. We find no active disease to go on in the cutaneous surface, which is not indicated by heightened sensation; whereas we constantly meet with cases of internal disease proving rapidly fatal, of which there was not the slightest sentient indication. This appears to corroborate the opinion, that the diseased structure, in the second instance, is not the point where pain should be demonstrated, but that it has a more complicated and consequently fallible medium of development. The apparent correspondence of sentient indication with the visceral affection has naturally led to the supposition of the essentially intrinsic nature of its manifestation, though I think that careful consideration alone would make us doubt the validity of the conclusion. If we suffer pain from any external affection, how readily can we define and designate the precise locality; while, in internal affections, the heightened sensation is vague and diffused, though perhaps highly intense. If the pain be intrinsic in gastric spasm, why should it be referred so especially to the anterior surface of the abdomen, without indicating whether the anterior or posterior surface of the viscus be affected? Why in renal disease is pain equally referred to the loins, testicles, and thighs? In cases of vesical calculus the pain is not referred to the afflicted organ, but to the extremity of the penis. In cases of intestinal spasm, the pain is referred to the general abdominal surface. The fact, I believe, is, that sensation is experienced where the extremities of the sentient nerves are distributed, corresponding with the organic ones. Why should one part of the head ache in preference to another, when we may consider the entire brain alike subjected to an irritating cause? Also, why should pressure applied to the forehead and temples give relief in many cephalalgic cases? The brain itself is not compressed through the osseous parietes. Doubtless, in the majority of cases of cephalalgia, the fifth pair of nerves is the medium of exalted sensibility, which accounts for a fact noticed by Dr. A. T. Thomson, that headach may sometimes be relieved by the inoculation of tinctura opii in the forehead. The localisation of pain, however, carefully examined, can only be affirmed to have a general relationship with an internal morbid state, though there is an intimate connection between them: it may, however, generally pretty accurately indicate the site of disease, as the point of development is generally adjacent thereto. In what is termed "a severe cold," *id est*, a state of general congestion, we have an aching sensation and tenderness over the entire body. In some internal complaints how exquisitely tender an adjoining surface may become; pain is occasioned by the lightest touch, though no degree of compression is exerted which can produce the slightest physical effect on the diseased organ. We frequently find it the case, that in severe affections of the chest or abdomen, the application of a few leeches will effectually relieve pain without at all preventing the fatal issue of the disease: this cannot be by abstracting blood from the morbid tissue itself, for that is often in no direct connection with the surface, and the quantity removed is too small to affect the general circulation. No; the effect is produced by drawing the blood from the nerves of the surface, and thereby reducing their exalted morbid sensibility, and, consequently, interrupting the current of morbid action. On the other hand, we frequently find severe pain complained of in the epigastrium; whereas after death there is not the slightest trace of disease discernible in the stomach, the pain having been merely sympathetic, or reflecto-sentient.

These, then, are the conclusions which I arrive at. Animal sensibility, in its derivation, is of two kinds, intrinsic and extrinsic. The first is inherent to a structure, the second is reflected. I do not pretend to define them with precision, but merely refer to them generally. The cutaneous surface is the chief centre of the development of both

—the principal originating point of the first, that of reflection for the second. I do not mean to deny that some internal organs may have some sentient nervous extremities distributed to them, but even where such is the case, I still consider the sensitive faculty in part extrinsic. The reflecto-sentient function may, therefore, be considered analogous with the excito-motor; for while the latter has its origin in organic sensation, the former is connected with organic action.

These views may serve to facilitate the comprehension of endermoid medication; they demonstrate the nature of the connection between the surface and the viscera. We can thus understand how stimulant and sedative impressions are alike transmitted to the internal organs, and consequently place more faith therein. It likewise implies a new mode of medicinal agency; one not of mere nervous relationship, but a distinct interruption of morbid action: this is exemplified especially in the destruction of a sentient surface. My friend, Mr. Dennett, of Storrington, Sussex, has long held the opinion that the benefit derived from the application of a moxa by no means depends on mere counter-irritation, as much as on the destruction of nervine extremities. The moxa will often act as a charm in diseases coming under the denomination of spinal irritation, when the disease is cut short by the annihilation of part of the medium of morbid development. By adopting the hypothesis of a reflecto-sentient function, we are enabled to account for the fallaciousness of pain, as an indication of the intensity of morbid conditions of the viscera. We well know that the most violent and extensive disease may exist, little or no pain being experienced: whereas it may be highly intense when the morbid condition is very slight. In some instances of disease, even where heightened sensibility is generally very acutely experienced, the morbid process, owing to a peculiar idiosyncracy, may proceed to a fatal termination in a latent manner, without any pain being occasioned. Thus, the reflecto-sentient function is equally variable in its manifestations with the excito-motor; for instance, while functional derangement of the stomach may on one occasion be attended by neither reflected sensation nor motion, at another time it may originate either pain or convulsive action. The cause of the uncertainty of reflecto-sentient and excito-motor function is probably dependent on the complicated course of their development, of which, on a future occasion, I will endeavour to distinguish some of the principal channels.

CASES.

By J. Nottingham, Esq., late House Surgeon to the Liverpool Infirmary.

WRY-NECK.—DIVISION OF THE STERNO-MASTOID.

Mary Sesnan, aged twelve years, has had wry-neck since she was twelve months old, for which the mother cannot assign any cause; the distortion is considerable, and she complains of inability to move the head with freedom.

The sterno-mastoid of the right side is in a state of permanent contraction; the right ear pulled down towards the corresponding shoulder; the chin twisted to the opposite side; the distance between the meatus of the ear and the top of the sternum is much less on the right side than on the other. It is the true sterno-mastoid, not the clavicular portion of the muscle, that is contracted.

A sharp-pointed narrow bistoury was passed under the affected muscle from within outwards, a little below the crossing of the omo-hyoideus tendon, its edge then directed toward the skin, and the sternal portion of the muscle divided. Its section was accompanied by a sensation communicated to the finger more or less like that the surgeon perceives when the tendo Achillis is cut across.

We immediately observed a difference in the position of the head, and on the affected side it was obvious that the distance between the top of the sternum and the meatus of the ear was about an inch and a half greater than before; but it was thought that further improvement might probably be effected by another division of the muscle near its attachment to the mastoid process, which was made by gliding the bistoury under the integument and cutting down upon the bone. The effect of this section was not so great as that produced by the first.

A little adhesive plaster was applied over the punctures, and two or three turns of a roller round the neck.

It is now five weeks since the muscle was divided; the head can be turned to either side with facility, and the distortion is much diminished; the cervical vertebræ however, long accustomed to peculiar position, do not at once retain the improved direction, which, by a little artificial support, can be given to them. The patient expresses herself with satisfaction respecting the "easy" manner in which she can move and hold her neck.*

* Since the report of the division of the sterno-mastoid was written, improvement has gradually taken place in the neck of the patient; and we have every reason to be satisfied with the results of the operation. I was assisted in its performance by my friend, Mr. Parker, of the Liverpool Northern Hospital, and have pleasure in acknowledging his valuable suggestions.

HIP-DISEASE.—TALIPES EQUINUS.—DIVISION OF TENDO ACHILLIS.

Aug. 16. Edward Ratchford, aged thirteen years, a healthy and tolerably strong lad, has been lame from his earliest infancy; the right heel is drawn up to a distance of some inches from the ground, which he only touches with his toes. The hip-joint of the same side has suffered at a former period, and is, as he says, "stiff."

The deformity and lameness are both remarkable, and he has great difficulty in walking, especially in rainy weather, when the ground is slippery. His mother gives the following history of the origin of his complaint:—

She says that at the age of three months he received an injury to the right side when two women were swinging him, one holding his hands, the other swinging him by the feet; the injury was not particularly attended to at the time it was inflicted.

Five months later, when he was eight months old, and was being taught to walk, the injury done to his hip, as above noticed, attracted more attention, and was regarded as dislocation then irreducible.

From that time to the present, a period of more than twelve years, the lameness has been more or less stationary. There is considerable atrophy of the limb in its thickness, not apparently in its length; the foot is in that condition to which the name talipes equinus has been given. I divided the tendo Achillis, assisted by my talented friend, Mr. J. Cameron, who agreed with me in thinking that the operation was likely to be followed by beneficial results.

The third day after the operation the boy, despite the state of the hip, could place his two feet side by side, the soles flat on the ground, and stand erect. Since this time he has gone on perfectly well; and although he has not the natural mobility of the hip-joint, he considers himself completely cured.

From the aspect of this case, and others somewhat similar, I have been induced to think that the irritation which accompanies the progress of disease in the hip gives rise occasionally to unnatural elevation of the heel, by producing over contraction of the gastrocnemii, independently of the effect produced by the new position of the femur, and that, in such cases, division of the tendo Achillis will frequently be found to be a valuable means of relief.

Since the above report was written, I have operated on two similar cases; in one, the relief afforded was as great as in the case here detailed; the other patient, although somewhat improved by the operation, did not experience such decided benefit.

35, Roscommon-street, Liverpool,
Oct. 26, 1841.

ACETATE OF LEAD NOT PRODUCTIVE OF COLICA PICTONUM.

"Iniquum petere id quod possit jure negari."

To the Editor of THE LANCET.

SIR,—In the present age it would appear that men seek notoriety in periodicals more than the advancement of scientific knowledge, or the benefit of the species; and it is to be regretted that men of this class do not weigh more studiously the consequence of an exposé of their want of physiological and pathological research ere they commit themselves. However, it would appear that the glorious distinction of "flourishing in print" holds in abeyance every other consideration.

The cases which elicit these stringent remarks are given in your last Number to the profession, under the heads of puerperal convulsions and colica pictonum. The first I shall not further notice than to say, there is nothing to be learnt from the case, it is mere self-laudation; the latter, as I conceive it may lessen the confidence of the younger members of the profession in a valuable remedial agent, I shall take the liberty of noticing, in order to point out its most prominent incongruities, and then leave the student to deduct for himself.

To premise, I may safely state that the majority of eminent men are of opinion that the acetas plumbi is *not* (in the doses usually prescribed) productive of colica pictonum, and that the fears generated by painters being so liable to contract it from the inhalation of lead as a *carbonate*, have generally given way to the free and innocuous quantities in which the acetate has in the later and more enlightened state of chemistry been prescribed. The late Sir J. Mackintosh advocated its use in very eulogistic terms: one case he mentions (a lady of weak and delicate habit) in which he ordered it in five-grain doses every third hour. The amount to which it is given in diarrhœa and dysentery in hospital practice, its constant use in the form of lotion to large ulcerated (and consequently absorbing) surfaces, would, were its effects poisonous, have produced this disease in *numberless* instances, and yet how rarely do we see it asserted. Dr. Thompson expressly states (and he is no contemptible authority on such points), "that *it is poisonous only* when decomposed, and a *carbonate* formed; and here I may remark, *en passant*, that the acetate of shops from long exposure to atmospheric action is frequently presented to the patient in the form of a carbonate, and, perhaps, this may account for some of the cases in which its use has been (unfairly) condemned.

When I was a pupil in the Dublin schools, the mention of acetas plumbi amongst the class of astringents, was usually

premised with, "Formerly, this invaluable remedy was supposed to induce spasm, paralysis, colica pictonum; but later experience convinces us that it is a perfectly *safe* and potent medicine." So far as I can speak from experience (and I have used it frequently and freely in hæmorrhage, diarrhœa, and to check profuse expectoration in pulmonic disease), I can safely state that I have never seen it produce any ill effects, and that in combination with opium it has proved a sheet anchor when the affection had intractably resisted other astringents. I have at present under my care a boy, of nine years old, who has been taking it in three-grain doses for weeks with perfect impunity, and without the slightest inconvenience. Let us advert to the case, and see whether, as the *leading* remedy, acetas plumbi was indicated; and if we meet with error here, we shall be the more cautious to admit conclusions.

The patient, when first seen on the 24th, has a "quick, jerking pulse," and anxious to prevent further loss of blood (I suppose the use of the lancet to be here understood), she is merely ordered "cold to the chest," and a *grain* of the acetate; at the same time we are informed the patient "ejects blood in mouthfuls." Of her state on the 25th nought is extant, but we are told that the hæmorrhage returned on the 26th, and that she has ejected a pint of arterial blood, the pulse continuing to jerk as quick as ever; *now* the lancet is in requisition. She is bled to a pint (the principle is not laid down), and you see the morbid anxiety to save blood costs the patient an additional pint. Now, indeed, the hæmorrhage declines, the lead is *now the adjunct*, it is increased, and tardily a counter-irritant is superadded. Young reader, would this have been *your modus operandi*? Would you not, on the 24th, have used your lancet freely without reference to quantity? Would it not have been the leading indication? Would you not have applied a blister or croton oil directly to the chest? Would you not have employed antimonial adjuncts? Would you not have given your lead and opium in efficient doses? And if you were asked to assign your reasons, would you not say, I use my lancet freely, because I am "anxious to prevent further loss of blood," and I would rather take it *e pleno tino*, than allow it to be ejected in *mouthfuls*? I would expect it quickly to subdue this increased vascular action, and allow time for the formation of clots in the mouths of the bleeding vessels, and because my remedies would then tell with double effect. I would expect my blister or croton oil to act as a counter-irritant, and derivative with more *permanent* effect than heated turpentine, the application of which few patients can bear.

I would have conjoined antimonials as an additional means of taking down this *jerking* pulse, and unloading the vascular system by determination to the skin; and, finally, I would have pushed my doses of lead and opium to an efficient extent, because I know that small doses of sedatives usually act as stimulants, and no time should be lost in getting the patient under their influence, and further, because I have high authority for so doing. Opium (says Mackintosh) to be useful in hæmorrhage, should be given in one, two, or even three-grain doses, where the discharge is kept up by local or general irritation; five grains of acetate was his usual dose in adult cases. The strength of the patient (says Burns) is supported by liberal doses of opium, irritation and excitement subdued, irregular determination of blood prevented, and under its influence the system is enabled to live on a smaller scale of vitality.

So far for the hæmorrhage. Turn we to the colic. And here would you not say, if the case was one of colica pictonum, the writer, even from his own statement, must admit that in symptoms and consequences it was one of the gentlest description, of the mildest possible character; and if it was not (and such is my conviction), the pain and griping (how symptomatic of the genuine colica!) are accounted for in the simple word constipation. I have seen all here enumerated in cases where the bowels were tied up by astringents, where the fœcal matter was deprived of all its thinner portions, and where a quantity of flatus was generated. I see in this case Epsom salt and laudanum ordered, I would expect this to aggravate the symptoms; the saline would cause an additional secretion; and the opium, by preventing the peristaltic motion, deny it an exit. I see that as soon as the bowels have been efficiently acted on, all the symptoms disappear. Is this the fact in genuine colica pictonum? Where are its real characteristics? Where the *peculiar* lead countenance? Where the harassing tormina? Where the knotty feel of the abdominal muscles? Where the immense difficulty of procuring motions? Where the tendency to or actual paralysis? Echo must answer, Where. I conceive my quotation applicable, Mr. Editor; that men should not seek the eminence that may be lawfully denied them, or a short-lived immortality, by lessening the value of a remedial agent; a substitute for which in hæmorrhage could not be easily introduced. I am, Sir, yours respectfully,

A. M'CLATCHIE.

Putney, Oct. 26, 1841.

ON THE USE OF AMADOU AS A SURGICAL APPLICATION.

To the Editor of THE LANCET.

SIR,—If the following remarks on the use of amadou, founded on considerable experience in the use of it, are thought of sufficient

importance to entitle them to a place in your Journal, you will oblige me by inserting them in an early Number. I remain your obedient servant,

J. WETHERFIELD.

1, Henrietta-street, Covent-garden.

This substance, in popular use for lighting pipes, is not unknown to the profession, having been recommended as a remedy to suppress hæmorrhage; but I am not aware that it has ever been applied to any other purpose. From its extremely soft and elastic nature, this substance is decidedly superior to every other at present in use, both as a medium for applying support and pressure, and for defending the tender and inflamed skin, arising either from friction or the pressure of hard bodies; and I have accordingly for several years employed it with success in the form of a graduated compress in the umbilical hernia of new-born infants, and as a compress over fistulous ulcers, as in the groin, after suppurating bubo, instead of the usual mode of a graduated compress of lint, which soon loses its elasticity, and becomes a source of irritation over the inflamed skin, especially if the patient is obliged to use exercise. A graduated compress of amadou, applied in conjunction with the spica bandage, will be found to facilitate the healing of these fistulous ulcers. In defending parts from pressure it is an admirable application, preventing those ulcerations so often produced by long confinement to one position; for this purpose it may be spread with soap plaster, and applied over the sacrum and hips; and it is equally efficient as a defence against the galling occasioned by the springs of steel trusses in persons of spare habit, and whose skins are irritable. It forms the best corn plaster I have ever used, so shaped as to take off the pressure from the central prominent and painful thickened cuticle, and spread with a mild and anodyne plaster, it effectually defends them, relieves the pain, and they are removed by the process of absorption: as a support to varicose veins, it has answered better than rollers, laced stockings, or any of the contrivances at present usually employed for that purpose, giving a steady, equable support without the aid of a roller, the substance and elasticity of the material itself affording sufficient resistance to the enlarged veins; for this purpose it should be spread with soap plaster, and applied, if possible, in one piece over the limb. Repeated trials have proved the efficacy of the amadou in the cases above mentioned; and by directing the attention of the profession to it, other uses will soon be found to which it may be applied with advantage: the manufacturers, too, will be more careful to select the purer sorts of it for medical purposes, as at present it is rather difficult to obtain a supply sufficiently equable in surface and substance to apply with success in cases where a piece of considerable size is required, as for covering a limb for varicose veins.

ON THE SELECTION OF KEEPERS IN LUNATIC ASYLUMS.

To the Editor of THE LANCET.

SIR,—During the recent discussion upon the propriety of abandoning lunatic restraint, and of adopting other improvements in the mode of treatment, I have been much surprised that a consideration of one branch of the subject has been neglected, and that branch one which materially affects the question—I refer to the selection of keepers. The discussion, indeed, has proceeded as though there were no such class of persons, or as if the power they exercise were of too limited a character to require any notice.

Now, if this be the opinion entertained, I cannot participate in it; for it appears to me that a fair trial cannot be given to the system of non-restraint without the zealous co-operation of the keeper, and hence that the cure of lunacy is involved in proper selection. Suppose that the keeper be not imbued with the spirit of the new system, and that instead of displaying intelligent benevolence he is but a sample of the old class—ignorant, rapacious, cruel—we may expect most lamentable consequences to ensue. The mild lesson will be succeeded by harsh looks and harsher language: if the patients become restive, the keeper will be irritated and resort to coercion; and hence, instead of the morbid feelings of the lunatic being calmed, he will possess a lesson and an example of that which he should most avoid. And not only this, no class is more susceptible of kindness or brutality than that of the lunatic; and, if the superintendent and keeper are contrasted in this respect, the unkind man will not acquire that perfect control over the patient which his functions demand. It is true, that since the institution of Government inspection there is a decreasing liability to the adoption of extreme coercion; but the letters of Messrs. Perceval and Paternoster cannot be perused without the conclusion, that though coercion be restrained it is not destroyed; and without learning the fearful truth, that an ill-disposed keeper can not only retard the cure of insanity, but develop it in organs where it had been theretofore latent.

Mildness of deportment is essential to the superintendent of a lunatic asylum; nor is it less essential to the keeper: indeed, if the quality can be dispensed with at all, it would be in the physician. For the superintendent is not required to hold much intercourse with his patients, a few minutes being all that he can devote to the majority, and hence his kindliness can alone operate

for the moment. But the keeper sustains a different relation, for he is with the lunatic at all hours; when the patient has a lucid interval, and when he is frantic in the extreme: and hence, as so much depends upon his discretion, it becomes desirable that he should be capable of exercising self-control under every circumstance, however trying to patience or temper. By so doing the confidence of the patient is acquired, whereby one element in the cure of insanity is evolved. Moreover, the principles of the new system are complied with; for, if I am acquainted with its spirit, its chief injunction is this—acquire the confidence of the lunatic by displaying confidence in him.

Nor is this all. The keeper is the medicine, the administrar, whatever be the mode of its application; and hence it lies in his power to thwart the physician, without any discovery being made of his neglect of duty: and farther, it must be remembered that the superintendent cannot always devote his attention to any specific case the instant it is required; and circumstances may, nay, do occur, of such an urgent character, as to demand the *immediate* adoption of remedial measures. Thus much devolves upon the keeper, who, if he be intellectually incompetent, or disregardful of consequences, may neglect to perform his duty, to the injury of the patient, or even to the sacrifice of life. If, therefore, these outlined remarks be based upon correct data, it will be obvious that it is futile to select a competent superintendent, unless we afford him the aid of able and zealous keepers; for without such assistance, he sustains the same position as a good general with an ill-disciplined army.

But, at present, what assurance have we that the keeper is qualified to perform his functions? None; for the committees, by whom they are appointed, are not usually the most fitted by knowledge and habit for the task of selection; and I fear that local influence is often preferred to mental claims. Hence the keepers were formerly remarkable for vulgar brutality, and offered a good illustration of the evils of enduing feeble-minded man with "a little brief authority;" and, if the present race be improved, the alteration cannot be ascribed so much to amendment in the mode of choice, as to that general improvement in manners which has made Squire Western an obsolete character. The engagements of a conscientious superintendent are too numerous and pressing to allow the devotion of much time to the selection of subordinate officers, or I should feel disposed to confide the appointment of keepers to him; but yet, as accordance of feeling between physician and keeper is indispensable to successful progress, I conceive that it would prove beneficial if he were vested with a veto upon every such appointment.

With my views of phrenology, of course, I consider that its principles suggest the best method of testing the qualification of candidates; for, if it be a correct exposition of mental phenomena, it cannot err: whilst reliance cannot always be placed upon testimonials; and the most expert physiognomist often finds his conclusion to be as erroneous as the deduction of that pathognomist who described Socrates as a drunkard and a reprobate, merely because he possessed an ill-favoured countenance. Had Courvoisier applied for the situation of keeper, the history of his past life would not have excited suspicion, and testimonials of a high character could have been produced. But what a different tale is told by his cast; for therein we find feeble moral sentiment conjoined to immense animal passion, but subjugated by a *secretive* organ sufficiently powerful to prevent any display of the latent disposition until the appropriate temptation was presented. Nor is this an exaggerated case; what is true of Courvoisier is true of thousands of other men: for, unfortunately, hypocrites are no scarce production. The application of phrenology is, therefore, suggested, as the external index to internal tendency is too prominent to be misunderstood.

The chief mental requisites of a keeper will be found to consist in a good intellectual capacity, with sufficient mental power to command attention and general activity, combined with an equanimity of temper, which it were difficult to disturb. A strong feeling of kindliness should be superadded, which would produce sympathy for the lunatic, and a sense of justice sufficiently powerful to induce him to fulfil his functions to the utmost of his ability. If to this were added a slight knowledge of the principles of insanity and its mode of cure, such information would not be undesirable; for he would not be in anywise unfitted for his office by knowing its principles, as well as its mere mechanism.

It is true, that the adoption of my suggestion would entail some expense; for if we employ competent ability we must pay proportionate salaries. But the question of expense is the last which ought to be introduced in a subject like this—one which intimately concerns the welfare of so large a portion of the human family, and that class one which is prostrated by the most fearful malady to which man is liable. Nevertheless, the economist may be pacified by the intimation that the extra expense will be compensated by reduced expenditure in the end: for we cannot doubt that, if competent assistance be provided for the superintendents, a cure will be effected in a shorter space of time than at present, and thereby much expense will be prevented.

I trust that the suggestion which I have submitted will engage the earnest consideration of the medical profession to a question

which I fear has been hitherto neglected; for though I may have given the text, to them is confided its application. I am, Sir, yours truly,

E. J. HYTCHE.

12, Brunswick Terrace, Islington,
October 5, 1841.

SUBSTANCE OF A LECTURE,

PRELIMINARY TO A CLINICAL COURSE, IN

KING'S COLLEGE HOSPITAL;

Delivered October 12, 1841.

BY DR. TODD.

DR. TODD commenced by saying, that as this was the first opportunity he had had of addressing the students respecting hospital matters, he was glad to avail himself of it, to say a few words respecting the value and the method of hospital attendance. He thought that students generally did not attach sufficient importance to this branch of their education; or, to say the least, they were prone to procrastinate with regard to it, and to put off the period when they should pay close attention to it. For this, however, he was disposed to make great allowance, knowing how many subjects required their attention within a very limited period of time. It seemed to him that they procrastinated respecting hospital attendance for two reasons: first, because they found that the knowledge derived from experience came slowly; they could not have before them, at all times, examples of every form of disease; they might, for instance, see a case to-day of a disease which excited great interest, and it might be months again, and when the interest excited by the first case might have entirely subsided, before another would be presented to their observation. This certainly served to damp the ardour of inquiring zeal, yet it was inseparable from the pursuit of the practical part of our profession, and even the largest establishments for the sick could not provide against this evil. Secondly, the attainment of knowledge from clinical observation, required a close application and habits of attention which young people too often thought were exclusively the property and privilege of older heads.

Now, it ought to be the object of clinical instruction, by which was meant instruction at the bedside, to diminish as much as possible the operation of these drawbacks, by assisting and guiding the observations of the students, by endeavouring to excite their interest in, and keep up their attention to, the phenomena of disease, which were continually presented to their view; to lighten the labour and shorten the time of learning, and render more pleasing the approaches to practical knowledge.

The benefit which the clinical student might receive from this assistance might be not inaptly illustrated by that which the botanical student received in attending the professor of botany in his excursions into the fields. There, by the personal instruction of the professor, he speedily acquired a practical knowledge of the forms and characteristic distinctions of plants, and which he could not obtain by his own unaided efforts, without a much greater expenditure of time and labour.

The clinical teacher was to the student in the wards of the hospital what the botanical professor was to him during the excursion. He wished, however, to impress upon them that their own co-operation, not partially nor indifferently, but warmly and zealously, was absolutely necessary to render any plan of clinical teaching really efficacious; and they could best co-operate with their teachers by being regular in their attendance at the hospital. Many cases were of short duration—they recovered quickly, or tended rapidly to a fatal result: and if the students were not in the way, they lost so much of the benefits of their hospital attendance; and let him add, that nothing was of more importance practically than that they should make themselves familiar with the symptoms and treatment of cases of an urgent kind. Every student should have his own case-book—should be his own clinical clerk. He should go round the wards, not merely to hear what the physician had to say, but to observe and make notes for himself. With a view to encourage and assist them in keeping a record for themselves of the history and progress of the cases, there had been printed for their use a scheme, or skeleton-plan, for taking cases, by the use of which they would become speedily expert in this most useful and valuable exercise.

He could not too strongly impress upon those of them who had attended hospital practice sufficiently long to have acquired a general knowledge of the prominent features of disease, the great importance of perusing a record of what they saw here. Such a series of cases as they might collect, even in so short a time as six months, would afford them a stock of practical facts which would be of incalculable value to them to the latest hour of their lives. A good collection of well-observed and carefully-noted cases must always be acceptable to one engaged in practice.

In medical literature, no books were of such practical utility as those which contained the records of cases. The works of Bright, of Abercrombie, of Andral, abounding in the histories of diseases, were, and must ever be, standard books of reference; and Bonetus and Morgagni, although of older date, were constantly referred to for examples of the varieties of disease.

They were not to despise the small size of the hospital, nor to imagine that because it was not a great overgrown establishment it would not afford them sufficient experience. They had there sixty physician's beds, which were constantly kept occupied with cases selected from an immense multitude of out-patients; so that they had always before them an ample variety of the various forms of disease. And let him tell them that in these sixty beds they would find enough, and at times even more than enough, to engage their attention profitably, however diligent they might be.

For his own part, he felt that he could not conscientiously undertake the charge of many more patients in the hospital; he could not devote that attention to them which he held to be absolutely necessary to do them justice. A few well-observed cases were infinitely more valuable than a hundred hastily examined and carelessly noted. In large hospitals it was found necessary to separate the cases for clinical observation, so as to confine the attention of the students within due limits.

Some of the most successful clinical physicians and surgeons of modern times, men who had added considerably to our knowledge of disease, belonged to, and practised in, small hospitals: need he mention the names of Scarpa, Langenbeck, of Rasori, Tomassini; and in these kingdoms, of Graves and Stokes?

In conclusion, he would entreat their constant and diligent attention at the hospital. It would be his duty to render them all the assistance and give them all the information he could in the wards; and from time to time they would meet in the theatre, where they could talk over the cases with less restraint than in the presence of the patients.

KING'S COLLEGE HOSPITAL.

CASES OF LUMBAR ABSCESS.—SUCCESSFUL PRACTICE WITH REPEATED PUNCTURES. CLINICAL OBSERVATIONS BY MR. FERGUSSON.

In visiting the wards, Mr. Fergusson has repeatedly called the attention of the pupils to several cases of lumbar abscess which have been lately under treatment.

William Cantellow, aged 26, at present in the house, a bootmaker, in September, 1840, first experienced severe pain in the loins, for which he became an out-patient, and was under treatment until his admission, on the 11th of August, 1841. During his attendance the pain had continued as severe as ever; and six weeks before his admission he first perceived a swelling in the upper part of the left thigh, which always increased when he took exercise or stood much. The swelling projected between the upper spine of the ilium and the femoral vessels, and occupied the most of this space. Fluctuation was very distinct, and rendered remarkably so by a little pressure over the iliac fossa, or by the patient's coughing; had some tenderness in the loins; had never any difficulty in moving his limbs; had been a hard drinker; much exposed to draughts of air, and had had syphilis once, for which he supposed he had taken mercury.

The first treatment resorted to in this case, after his admission into the hospital, was to place the patient on middle diet, to keep his bowels regular with simple aperients, and continued rest in the horizontal position was strictly enjoined; whilst morning and evening a little iodide of potassium, of the strength of half a drachm to an ounce of spermaceti ointment, was rubbed over the swelling. In the course of ten days the tenderness in the loins having nearly gone off, Mr. Fergusson, with a narrow sharp-pointed bistoury, made a small valvular puncture in the most prominent part of the swelling, and evacuated about six ounces of thin pus, great care being taken to prevent the admission of air. A bit of lint and a compress were placed over the part; the wound healed at once, and the patient experienced considerable relief. In the course of the next three weeks, two more punctures were made before the abscess had attained its original size; these wounds also healed readily, and at last the abscess seemed much smaller, and no trace of it above Poupart's ligament could be detected. A fourth opening was made, and the abscess completely emptied. The wound did not close on this occasion however; a smart attack of inflammation followed, and the patient had considerable constitutional irritation, whilst a thin, offensive fluid was discharged from the small wound. Poultices were applied; in a few days all bad symptoms went off, the matter became more healthy in quality, and gradually diminished in quantity, until, at last, the cavity of the abscess seemed to have become obliterated.

Mr. Fergusson remarked, that as this patient was about to leave the house, he felt desirous of referring particularly to the case, as the pupils might not have another opportunity, for some time, of witnessing a trial of the method of puncture which had been resorted to.

After alluding briefly to the different kinds of practice which might have been adopted here, and explaining the principles inculcated by Mr. Abernethy in such cases, Mr. Fergusson stated that, as a general practice, it seemed to him best to treat them in the manner pursued in this instance. He had enjoined rest and the other measures as being most likely to avert the danger of inflammation following each puncture; and though he had little faith in the efficacy of iodine in promoting absorption, or indeed in any of the numerous plans which had been proposed

to effect this end, he thought it right to make trial of the remedy, as it could do no harm, and would, at all events, serve to show the patient that some means of cure were being applied, during an interval when, from the apparent simplicity of the practice pursued, he might have imagined that, actually, no attention was given to his case.

No diminution of the swelling having occurred, and the proper period for more energetic practice having arrived, he had made a small puncture, and taken every precaution to avert bad consequences. The pupils had now an opportunity of judging for themselves of the advantages of the course pursued, and he reminded them of two other examples of a similar kind which had lately been under his care in the hospital, and treated on the same principles: one the case of Thomas Wright, aged 22, a baker, whose case had, during the autumn, excited considerable interest from its great size—the swelling in the upper part of the thigh making the limb appear nearly twice the size of its fellow—and from the happy result which followed treatment of the kind now alluded to: the other, that of a man named James Higgins, aged 26, who had also a very large lumbar abscess pointing in the thigh, and had been dismissed cured, by the same means. This patient had left the hospital for more than twelve months, and Mr. Fergusson stated that he had since learned that the disease had reappeared in this individual; a circumstance which he attributed to the too sudden change from a continued state of rest, which had been a main feature in the treatment; for as he had reason to suspect disease of the lumbar vertebræ in this person, he had been more than usually careful in this point of treatment, and had, in addition, resorted to counter-irritation in the loins, by means of the potassa fusa. Mr. Fergusson observed, that in opening any large abscess, more particularly a lumbar one, the surgeon was naturally afraid of the inflammation which might follow; and hence the chief reason for making small openings in such cases as those under discussion. His own practice, in general, in abscess, was to make a free opening, but in these cases he usually made an exception; yet even with the utmost care inflammation could not always be avoided; it had occurred in the three examples brought under notice, but fortunately not after the first puncture, but towards the end of the treatment, when the sac was much diminished, and when, consequently, inflammation in its interior was less hazardous. He had often seen inflammation occur after the first puncture, and knew of no certain means of avoiding it, unless it were those general principles which he had endeavoured to illustrate by reference to these cases.

CLINICAL REMARKS ON A CASE OF PARTIAL EMPYEMA, BY DR. TODD.

Dr. Todd lately called the attention of the students to the following case:—

Wm. Stack, aged 50, of florid complexion and temperate habits, has enjoyed good health all his life. Ten days ago he was seized with vomiting, a high degree of fever, and cough, with yellow expectoration, and was admitted on the 29th of April with the following symptoms:—Laborious short respirations, 40 in number, with pain in the left side of the chest; dulness on percussion on the left side posteriorly; also bronchial respiration and bronchophony below the infra-spinal fossa; at the base of the lung there is no bronchial respiration, but a free crepitation. The respiration on the right as well as on the posterior part of both sides is pure; puerile at the right posteriorly; on both sides, both percussion and respiration are natural; there is great thirst, but the skin is not hot; pulse 104; sputa scanty, and slightly rusty. This case, Dr. Todd remarked, was pneumonia, which had run into hepatisation in the left lung in the upper and posterior two-thirds of the inferior lobe. The obvious indications of treatment were to check the progress of the inflammatory solidification, to remove pain, to mitigate fever, to obtain the resolution of the portions of lung hepatized, and, at the same time, to support the patient's strength without needless stimulation. He was cupped to ten ounces on the painful side, and had some fever medicine with beef-tea and milk diet. On the following day there was no change in the respiratory phenomena, but he evidently was lower, and had assumed much more of the typhoid aspect; the tongue was becoming dry, he had much thirst, and red patches on the cheeks; respiration 36. He was now given two grains of calomel, one of ipecacuanha, and one-eighth of a grain of opium, every four hours; and four ounces of wine daily, omitting the fever medicine. On the 1st of May he showed slight amendment in the day, the respirations were less frequent, and the tongue less dry. But in the evening he became restless, and complained of pain in the right side; and Mr. Browning, the physician's assistant, detected slight bronchial respiration and fine crepitation on that side below the axilla. To relieve the pain, he was cupped on the side to ten ounces, but he bore the loss of blood very badly, for next morning his respirations were accelerated, and were 48; his pulse and heart's sounds were feeble, and 100; extremities disposed to be cold; dry tongue and great thirst; slight bronchial respiration at the base of the right lung, and slight dulness on percussion in the corresponding region. An increase in the stimulating plan being evidently called for, he had his wine increased to six ounces, and in addition to the calomel and ipecacuanha

he had six grains of carbonate of ammonia in an ounce of camphor mixture.

Under these remedies he had next day improved much; his respirations were reduced to 30 in number; his pulse was 100, and his tongue clean and moist; the respiratory phenomena were much the same.

The stimulant treatment was persevered in for some days, with the best effects; the sound gradually became clear on the left side over the base of the lung, and the respiration more vesicular. On the right side, however, no change had taken place; percussion yielded a dull sound over the base of the right lung, and the respiration continued feeble, with some resonance of voice, not œgophony, nor yet decidedly bronchophony. When the hand is laid on this side while the patient speaks, no vibrations are perceived on the chest, although they are manifest on the left side; and this circumstance led to the suspicion that a slight circumscribed pleuritic effusion might be present.

This patient has now been five weeks in the hospital, yet his present condition is far from being satisfactory. He does not gain strength; his voice is full and husky; his emaciation progressive; there are no sputa; his appetite fails; and although free from pain, he occasionally complains of oppression of breathing; his respiration 30, too high to allow of the supposition of the absence of organic disease; his pulse ranging between 100 and 120. The physical signs indicate a healthy state of the left lung; indeed, the respiratory murmur is augmented, being puerile, excepting at the base of the left lung, where there is some large crepitation.

On the right, however, there is dulness on percussion in the infra-scapular region, and in the posterior *half* of the lateral region; the respiratory murmur is very feeble, although not absent; the voice is slightly resonant; after cough an obscure gurgling was noticed, which, at the correspondent point anteriorly, has more the character of a sibilus accompanying both expiration and inspiration; but here, as in all other parts of the thorax (except in the left infra-scapular region and posterior half of the lateral region), percussion elicits a clear sound, and vesicular respiration is heard. The left thorax posteriorly and inferiorly does not vibrate in unison with the voice; the heart's sounds are natural.

It is obvious that this patient has passed through a considerable amount of morbid action; first, pneumonia of the left lung, hepatisation; that hepatisation is now resolved, and the lung is healthy, excepting quite at its base, where the continuance of a large crepitation indicates some congestion of the pulmonary tissue and bronchial membrane.

What is the condition of the right lung? The respiration, although feeble, is vesicular, but there is a dull sound and an absence of thoracic vibration, both of which signs indicate a pleuritic effusion, but as these signs are met with only within very circumscribed limits, it follows that the effusion must be very circumscribed; the dulness in particular terminates by a very well-defined line in the lateral region. The gurgling and wheezing, which are noticed, arise, doubtless, entirely from the presence of mucus in the bronchial tubes, heard feebly behind through the circumscribed collection of fluid. There seems every probability that the fluid thus accumulated is purulent. This being the case, it will make its way out; and the sooner this occurs the better for the patient; it may find an outlet either through the thoracic parietes or through the lung, and by this latter channel it would be coughed up. It was this latter termination that he (Dr. T.) was anxious to see for the poor man, and if he remained long enough in the hospital, he thought it would probably take place. The students would see him suddenly begin to cough up a quantity of pus; meantime the duty of the physician would be to support his strength, as much as possible, that he might not sink under the shock which he might probably receive, nor suffer from the drain which would be made by the bursting of the abscess; nor could they expect by any remedial means either to cause the absorption of the fluid or to hasten its removal. This patient left the hospital shortly after the lecture was given. A few days after he returned home he was suddenly seized with a fearful sense of suffocation, speedily followed by violent cough, and the expectoration of a large quantity of purulent matter. He continued to spit pus for several days, but afterwards recovered his strength, and the last time Dr. Todd heard of him he was quite well.

MIDDLESEX HOSPITAL.

SEVERE LACERATED AND CONTUSED WOUNDS OF THE HEAD AND FACE. CLINICAL REMARKS BY MR. ARNOTT.

Thomas Lay, omnibus driver, ætat. 47, was admitted on the evening of the 30th of September, immediately after the receipt of the following injuries:—On the right side of the head the scalp was turned back from the temple, exposing the parietal bone to a considerable extent; the flap was much torn and bruised; there was a severely contused wound of the right cheek, laying bare the malar bone; a portion of the right ear was torn off. The whole of these wounds were filled with mud and gravel. On the left side of the head and face the soft parts were bruised, but without division of the integuments.

It appeared that, as he was driving his omnibus, in making way for another omnibus

which was passing he ran against the kerb, and was jerked off by the shock; on falling, his head was caught between the kerbstone and one of the wheels, and the injuries just described were the result of the squeeze. He was taken up insensible, but on his admission presented no symptoms of concussion of the brain, though evidently under the influence of liquor.

The head having been shaved, the wounds were carefully cleansed of the dirt (a work of some trouble), and their edges approximated by strapping. A cloth dipped in cold water was applied to the head, and a compound jalap powder given. He was placed on low diet.

Oct. 1. Ten, a.m. The powder has operated once; he has slept but little, and complains of great pain in the head: pulse quick, but compressible. Ordered a pill of calomel and antimony every six hours, and a saline draught three times a-day. In the evening the strapping was removed from the wound on the head, and a poultice applied. Scalp puffy, and the wounds beginning to discharge.

2. Redness and swelling of the right side of the head and face extending a little way down the neck; pulse quick; mercurial fœtor of the mouth. Ordered the head to be enveloped in cotton-wool, over the poultice. Omit the calomel, and give him salines with antimony.

3. Has passed a better night; erysipelas disappearing, but says his mouth is very sore. He is on the whole much improved.

4. Scalp discharging; he remains much the same as yesterday.

5. Is doing well; erysipelas nearly gone; mouth still very sore. Ordered a chlorine gargle and a compound senna draught. Complains greatly of cough, for which the common linctus was ordered. Has had an attack of what he calls asthma during the night, to which he says he is subject.

6. Erysipelas has reappeared, and the denuded bone is perfectly dry. There is redness and swelling of the bruised parts, on the left side of the face and head.

7. Complains much of his mouth; cannot sleep; cough still troublesome; pulse very weak. Ordered three ounces of wine. Omit the antimony, and let him take half a drachm of compound tincture of camphor with an ounce and a half saline draught, three times a-day.

8. Has great pain of the head when he coughs; the flap of the scalp has nearly all sloughed away; one piece, however, seems healthy, and likely to adhere. Wine continued. Erysipelas subsiding.

9. Cough very troublesome, with copious thick mucous expectoration; wounds of ear and cheek granulating, and looking healthy, as also that of the scalp: complains greatly of want of rest. Ordered twenty minims of laudanum in camphor mixture at bedtime. Omit the saline. Had beef-tea for his dinner.

10. Has passed a restless night, which he attributes to his asthma. Ordered five minims of tincture of lobelia inflata, with an ounce and a half of compound squill draught, three times a-day. At ten, p.m., he was in a profuse perspiration, and complained of headach, which he attributes to his medicine. Omit the tincture of lobelia.

11. Complains of weakness; pulse compressible; erysipelas has disappeared; wounds granulating; nearly all the sloughs have come away. Ordered half a pint of ale, in addition to his wine and beef-tea.

12. Improving still, but cough very troublesome, especially at night. Repeat the medicine of squill and lobelia inflata.

13. Complains of being hungry, and says he can eat, his mouth being much better; the wounds have all been poulticed up to this period, and the face enveloped in cotton-wool during the attacks of erysipelas, but the sloughs have all come away. At the anterior part of that on the side of the head, about two square inches of bone are left exposed: simple dressing was applied to them. Ordered a mutton-chop. Continue the laudanum at bedtime.

14. Has slept badly; the denuded bone is becoming somewhat discoloured. Continue laudanum.

In his clinical lecture to-day, Mr. Arnott made the following reference to this case:—This man (he said) had a portion of his scalp turned back and mashed, with other severely-contused wounds of the face and ear. The parietal bone was exposed without fracture, and there were no symptoms of concussion or compression of the brain: yet, though the parts within the skull appeared uninjured, the nature and extent of the wounds of the soft parts covering it gave and give the case importance. From their nature, being severely contused, it was evident that the wounds would not unite by adhesion, but must suppurate; and it was more than probable that a portion of the detached and bruised scalp would perish; yet with all this it was proper to lay down the scalp upon the exposed bone—it was possible that some adhesion, at the angle of the wound, at least, might take place, and the less bone left exposed the better. In doing this, care was taken to leave a free exit for the secretion from the wounded parts, that they should not collect nor occasion bagging. Though it followed almost necessarily that a wound of this character should be succeeded by constitutional and local excitement, the man was not bled, a measure usually and very properly deemed prudent, as a precautionary measure, for moderating these actions. The state of the patient's pulse which, though frequent, was compressible, and his previous habits, forbade this. At and beyond this

age, in persons who have drunk freely, and have a pulse of little power, bleeding was not well borne, and should not be resorted to unnecessarily. He was satisfied, then, with purging him and keeping him on low diet; giving him first calomel and antimony, and in two days afterwards, in consequence of his mouth becoming touched, supplanting this by salines with antimony. Yet these means had very soon to give way to wine and beef-tea, under which he was now doing well, although the case had been complicated by an attack of chronic bronchitis, upon which it was not necessary then to dwell. Of more consequence was the exposure of the bone of the skull from the sloughing of the scalp, which had been left bare to some extent. What would be the probable issue of the case as regarded the bone? One of three things might ensue. First. Granulations might arise from the surface of the exposed bone. Second. A layer, more or less thick, might die, and be thrown off as an exfoliation, granulation arising from the living bone below. Third. The whole thickness of the bone might die, and the case proceeding favourably, the dead portion also might be detached by the efforts of nature. Which of these occurrences would take place, it was impossible at present to determine. Though still possible, there was very little likelihood of the first. If the latter-mentioned should take place, the case would be attended with additional risk to the patient, from the presence of a source of irritation so close upon the brain. The case was well worthy of the student's continued observation, as regarded the processes ensuing upon exposed bone in this situation.

15. Was asleep on going round in the morning, but had no sleep during the night; wanders a great deal; the wounds continue healthy; bone of a still darker colour; cough better. Omit the anodyne.

18. Has been gradually improving since last report; passes restless nights owing to his cough. Ordered twenty minims of liquor of acetate of morphia in camphor mixture, every night.

19. Twelve, p.m. Found him labouring under a severe attack of asthma. Ordered five grains of carbonate of ammonia, and two drachms of spirits of sulphuric ether, which relieved him.

20. No return of asthma, but complains of pain in the head; the bowels have continued to act regularly without the aid of medicine. Ordered the draught to be continued should the asthma return. On elevating the granulations which overlap the edge of the exposed bone, a groove is seen forming round its edge.

24. Bowels relaxed. Ordered compound chalk mixture, three times a-day.

25. Diarrhœa checked.

26. Granulations exuberant; touched with nitrate of silver, and ordered dry lint to be applied.

30. Continuing to do well. Has a chop, three ounces of wine, and half a pint of ale, daily.

FOREIGN MEDICAL JOURNALS.

POISONING WITH ARSENIC.—REPORT ON MARSH'S APPARATUS.

In the communications of our English correspondents we find an abundance of facts without speculation, but in our Gallican contemporaries we encounter, in an equal degree, speculation without facts. We shall sift with care the statements found in these journals, and present none to our readers which do not possess innate evidence of their truth.

Since the famous trial of Madame Laffarge, the attention of the scientific world in France has been directed to the effects of arsenic upon the human frame, and the tests by which its presence may be best detected.

A committee of the Academy of Sciences has been occupied in examining into the merits of Marsh's apparatus. The report drawn up by the committee thereupon consists of *ten* propositions, which are briefly these :—

1. Marsh's apparatus is capable of easily detecting the one-millionth part of arsenious acid in a fluid. The spots begin to appear when the fluid contains only the two-millionth part of a grain.

2. The spots are not more readily produced with a large quantity of fluid than with a small one, if each contain a relative proportion of arsenic.

3. It is a matter of the utmost importance to make the gas pass through a tube at least eleven inches long, containing cotton, for the purpose of arresting the matter which is always carried along mechanically by the gas.

4. The process proposed by M. Lassaigne consists in passing the arsenuretted hydrogen through a neutral solution of the nitrate of silver, and then decomposing by hydrochloric acid; the acids are eliminated by evaporation, and the residuum tested for arsenic.

5. The method pointed out by Berzelius and Liebig, and usefully modified by Koeppelin and Kampmann, is capable of discovering very minute quantities of arsenic; it condenses the arsenic more completely than any other process. The following is the best arrangement of the apparatus :—

The flask must have a straight neck with a large mouth; the cork is pierced by two holes; through one a straight tube of four

lines and a half in diameter is passed to the bottom of the flask; through the other a smaller tube, bent at right angles. The latter passes into another tube, eleven inches long, filled with asbestos; this latter joins a tube of very small diameter (one line), and pointed at the end; the extremity of this tube, for about three inches, is enveloped in a metallic leaf. The flask must be chosen of sufficient size to contain one-fifth more than the quantity of fluid operated on; and when the latter is supposed to contain only traces of arsenic, that quantity should be small. The extremity of the tube in the flask is cut off obliquely, and furnished with a small bulb at any point of the vertical branch, for the purpose of condensing any water that may be carried up. The apparatus being thus arranged, a few bits of zinc are placed in the flask, and then water sufficient to cover the end of the safety-tube; then sulphuric acid is poured in; the air contained in the flask is expelled by the hydrogen. The end of the horizontal tube is now heated with charcoal, and the suspected fluid introduced into the flask through a funnel, care being taken that no air enter with it. Should the gas be disengaged more slowly after the introduction of the fluid, more sulphuric acid must be added. If the gas contain any arsenic, it will be deposited in the form of a ring around the extremity of the heated tube; and the gas which escapes may be ignited, so as to collect any spot on a porcelain cup, for a portion of the metal may be carried over unless the tube be heated for a sufficient length. The tube might be bent, and the end passed into a solution of the nitrate of silver, so as to collect every particle of arsenic.

As the metal is deposited in the form of a ring, its physical and chemical properties may be easily examined.

6. The sulphuric acid employed must be purified by distillation, and the zinc by being reduced to fine scales. In all cases the analyst should test the purity of the substances which he is about to employ.

7. The animal matter should be carbonised by sulphuric acid, and the carbon then treated with nitric acid. This method requires the use of a smaller quantity of the reagent, and does not cause a great waste of arsenic.

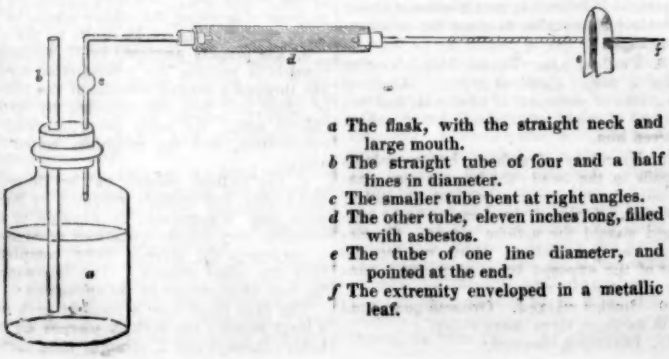
8. It is a matter of the utmost importance that the whole of the animal matter should be completely carbonised. Unless this be done we obtain a fluid which froths, and gives spots somewhat similar to those of arsenic. These were first noticed by M. Orfila, under the name of *dirt-spots*, but they can be easily distinguished by the proper tests from the true arsenical spots.

9. As to the arsenic which has been said *to exist naturally in the human body, all the experiments made by the committee on the bones and soft parts gave negative results.*

10. The committee are of opinion that Marsh's apparatus, if employed in a proper manner, is suited to all cases in which the quantity of arsenic is much greater than what the sensibility of the apparatus is capable of exhibiting; it should only be employed with a view of concentrating the metal, and we should reject, or, at least, regard as very doubtful, any indications furnished by it when the crust round the end of the tube is too thin to allow the experimenter to apply the chemical tests of arsenic.

In the majority of cases of poisoning with arsenic the medical jurist will be able to obtain the metal from the matter which has been vomited, or from what remains in the intestines, and will not find it necessary to carbonise the flesh, except in rare cases.

Apparatus of the Royal Academy of Sciences.



a The flask, with the straight neck and large mouth.
b The straight tube of four and a half lines in diameter.
c The smaller tube bent at right angles.
d The other tube, eleven inches long, filled with asbestos.
e The tube of one line diameter, and pointed at the end.
f The extremity enveloped in a metallic leaf.

Physiological Effects of Arsenic.

No scientific man has taken a more prominent share in the discussions relating to poisoning with arsenic than Orfila, so justly celebrated for his toxicological writings. We know no man, in the whole circle of our profession, who holds a more enviable position than this gentleman; enjoying a high European reputation, honoured in his adopted country, and universally beloved and caressed in private society, his career may well be emulated by the genuine student. Stimulated by the report of "a commission of the Institute," on the *modus operandi* of arsenic on the animal economy, he has instituted no less than 157 experiments in order to elicit the true character of these phenomena.

The labours of the "commission" were chiefly directed to verify the assertions of Rasori and Giacomini, that the action of arsenic is *asthenic*, and that bleeding and all antiphlogistics are injurious. In the report submitted to the Academy, it is stated that of *nineteen* dogs treated by bleeding *three* only were healed; that out of *twenty* animals treated by stimulants, *eleven* died; and that *eight* dogs, poisoned like the rest, and abandoned to themselves, perished. This result gives a slight advantage to the tonic plan. Orfila objects to the experiments, as badly conceived and worse executed. He says that part of the curative effect of the stimulants was due to the vomiting which followed their employment, and which probably contributed to the rejection of some of the arsenic, especially as the vinous and alcoholic *bouillon* was given at a period very little removed from the exhibition of the poison. That the rejection of the arsenic by this means is probable, is shown by the rapid recovery of some of the animals after vomiting. He objects, also, that all the arsenic was given in a state of solution, instead of the experiments being varied by the administration of the solid arsenic in fragments more or less minute, simply immersed in a liquid, or mixed with the aliment. The ligature of the œsophagus was also neglected, as a means of ascertaining that each animal retained the same dose. The commission furthermore neglected a number of important points. They have not clearly stated how many times each dog vomited, at what hour they took place, what were the exact doses of tonic administered, whether these tonics produced vomiting, and if so, how soon after the ingestion of the medicine; what was the precise quantity of blood drawn from the vein; at what time the bleedings were effected. They did not note if the animals urinated; a circumstance that ought on no account to be neglected.

With regard to the results obtained by the experiments of the commission, M. Orfila observes—"I should not have moved in this matter if I had not seen in these writings a great danger for poisoned patients. The more I was convinced of the falsehood of the principle which they tended to establish, the more I regretted seeing the Academy sanctioning by its silence one of the greatest heresies that therapeutics has ever engendered."

M. Orfila divides his experiments into *seven* series:—

First. The first series comprehends twelve dogs, and in them he demonstrated that the œsophagus may be tied and maintained in that state for thirty hours, without producing any important effect. Some hours after removing the ligature the dogs ate and drank; the wound of the throat was cicatrised in a few days, and their recovery was as prompt as constant. This result is perfectly repugnant to the assertion of Giacomini, who insists upon the "*influenza dannosa dell' allacciatura dell' esofago*," the injurious effect of the ligature of the œsophagus.

Second. The second series included three dogs. The object was to show that the stimulant medication destroyed the animals in a few hours, even when administered alone. He administered a medicine, composed of 128 grammes * of *bouillon*, of 64 grammes of brandy, and as much of wine. The animals invariably sank under symptoms of intoxication, and occasionally suffered excruciating pains.

Third. The third series of these experiments comprehends 34 dogs; every one of them was submitted to the operation of solid arsenious acid applied to the cellular tissue of the internal part of the thigh. Five of these animals served to prove that ten centigrammes of the poison thus employed was sufficient to produce death in from thirty to forty-eight hours, if these animals were abandoned to themselves.

Ten dogs treated by the narcotico-tonique plan, died. Four dogs treated with warm water only succumbed equally, and it is worthy of note that they urinated very little.

Of seven dogs bled, three died six or seven hours after the application of the poison.

Six of the animals, subjected to a diuretic medication, were all cured; there was copious secretion of urine containing arsenic.

The four last were treated with nitrated water, but did not urinate, and perished.

* Gramme = 20 grains.

Fourth. The fourth series comprehends 41 dogs, which were made to swallow arsenic in fine powder.

Four of these animals, whose œsophagus had not been tied, were perfectly cured, without the aid of any antidote, after taking 30 centigrammes of pulverised poison. But they all vomited within the first hour after the poisoning.

Four died, having the expulsion of the poison prevented by a ligature of the œsophagus.

Four animals to which the power of vomiting was allowed, after swallowing 20, 30, 50, or 60 centigrammes of arsenious acid, treated with the tonic and spirituous *bouillon*, have been healed, *in spite of this medication*, because they vomited shortly after the ingestion of the poison, and because they expelled large quantities of urine.

Of seven dogs thus poisoned, and whose œsophagus was tied, four died, although submitted to the tonic and excitant medication. These dogs scarcely urinated. Three of the seven dogs were restored in spite of the excito-tonic medication.

Four strong dogs, having the œsophagus tied, after being dosed with a strong decoction of cinchona, all died. They did not urinate at all, or only a long time after the exhibition of the poison, and scantily.

Nine dogs, whose œsophagus was left free, treated with aqueous potations, were all cured, because they vomited and urinated frequently.

Of nine dogs poisoned with the solid arsenic, and treated by bleeding, seven recovered. In four of the recovered animals the œsophagus was tied for *three*, *four*, or *five* hours, and the quantity varied from 160 to 609 grammes.

Fifth. In this series the dogs were poisoned with arsenic dissolved in water, and introduced into the stomach.

Seven dogs which had swallowed 25, 35, 40, or 50 centigrammes of poison, and were abandoned to themselves (and of which several vomited more than an hour after the poisoning), all died in a few hours; in three of them the œsophagus was tied for three hours.

Eighteen dogs, to whom from 22 to 25 centigrammes only of arsenious acid, dissolved in water, were administered, succumbed in a few hours under the excito-tonic treatment; but in all these animals the œsophagus was tied for a period varying from forty minutes to two hours. *One* large dog that had rejected a portion of the solution, recovered.

Eight dogs that had taken from 25 to 50 centigrammes of the poison, and had vomited five, ten, fifteen, or twenty minutes after the poisoning, were perfectly re-established in a few hours by the aqueous treatment. The greater part of these animals expelled urine abundantly. One dog, which had vomited an hour after taking the poison, although treated in the same manner. He urinated but once. Two other dogs, treated equally with warm water, perished quickly, but the œsophagus had been kept tied for three-quarters of an hour.

Of thirteen dogs poisoned by 22, 35, 37, 40, 50, and 72 centigrammes of arsenious acid, dissolved in water, and bled, two cases only were cured; but in all these cases the blood-letting practised at unfavourable times, was not aided by any vomitive medicament.

In nine cases, on the contrary, Orfila obtained seven recoveries, where from 35 to 40 centigrammes of poison were given, and hot water was administered as an adjuvant to the bleeding. The two which died had the œsophagus tied, and were not able to vomit for the first fifty minutes.

Sixth. This series was directed to ascertain what effect diuretics would have in poisoning from other substances besides arsenic.

Orfila commenced by assuring himself, in four experiments, that in applying *ten* centigrammes of tartar-emetic upon the cellular tissue of the inner part of the thigh of dogs of medium size, if the animals were left to themselves, death would occur in from eighteen to thirty-six hours.

Five were poisoned in this manner, of which four were healed under the influence of diuretic drinks. They secreted a prodigious quantity of urine, and the urine when examined always furnished antimony. The dog that sank died in twelve hours after the application of 15 grains of the poison; but he had not urinated even once.

Seventh. A dozen dogs were poisoned with one, two, four, or six grammes of the aqueous extract of opium, applied to the cellular tissue of the thigh, or taken into the stomach. As was expected, the poison arrested the secretions; diuretic drinks, frequently reiterated, occasioned none of these animals to urinate. So that it was impossible to resolve the problem proposed. M. Orfila, however, recommends, in cases of poisoning with opium, the use of diuretic drinks, in addition to the means adopted by other authors.

M. Orfila gives expression to the issues of his experiments and speculations in twenty-two propositions, which are as follows:—

1. The poisoning by arsenious acid is more difficult to cure, *cæteris paribus*, when the poison is dissolved in water than when in the solid state; the absorption being slower in the last predicament.

2. The arsenious acid in powder, applied to the subcutaneous cellular tissue of the thigh of dogs, is much more energetic than when introduced into the stomach in the same dose, whether the animals vomit or not.

3. All the dogs submitted for three hours simply to the action of the *excito-tonic* medication recommended by Giacomini, died in

the space of from twenty-four to thirty-six hours.

4. When it is proposed to study upon dogs, the influence of any mode of treatment for poisoning by any substance, the œsophagus may be tied for thirty or thirty-six hours without disturbing the system of the animals, or vitiating the results in any degree.

5. The intoxication produced by 10 centigrammes of arsenious acid powdered and applied to the subcutaneous cellular tissue of the thigh of dogs of middle size, is invariably fatal, whether the animals be left to themselves or treated by the excito-tonic method, or by blood-letting. Diuretics, on the contrary, if they make the animals expel urine abundantly, constantly cure the poisoning, because they carry out through the kidneys the arsenious particles.

6. Introduced into the stomach of dogs to the extent of 30 or 40 centigrammes, the arsenious acid, *finely powdered*, never occasions death, even in the absence of every medication, if the animals experience reiterated vomiting soon after the ingestion of the poison. The contrary takes place if the œsophagus is tied during some hours, and the dogs are left to themselves.

7. Animals that have swallowed 30, 50, or 60 centigrammes of arsenic in fine powder, are restored pretty constantly by the administration of the excito-tonic doses, if they vomited repeatedly, a little time after the ingestion of the poison. The same result is obtained more surely by the use of warm water.

If the œsophagus be tied for some hours before the ingestion of the excito-tonic medicine, death occurs, if vomiting does not immediately occur after the removal of the ligature, or if prodigious diuresis be not produced.

8. The dogs poisoned by 30, 50, or 60 centigrammes of arsenious acid in powder, and treated with a strong decoction of *cinchona*, all perished, when the œsophagus had been kept tied for ten or fifteen hours.

9. The animals whose gullets were not tied, were restored by the simple administration of warm water, even when 110 centigrammes of solid arsenious acid had been swallowed, if they vomited promptly and repeatedly after the imbibition of the water.

10. A great number of dogs poisoned by 20, 30, or 50 centigrammes of solid arsenious acid, were cured with the aid of blood-letting, even when the œsophagus had been kept tied for three, four, or five hours, if the animals urinated freely.

11. All the dogs which had taken 25 centigrammes of arsenious acid dissolved in water perished, if they remained an hour and a half without vomiting, and were abandoned to themselves: among those that had vomited 5, 10, 15, 20, or 25 minutes after the ingestion of the poison, those only who vomited most freely were cured.

12. The excito-tonic *bouillon* does not impede the cure of dogs poisoned with 25 centigrammes of arsenious acid dissolved in water, provided the vomiting takes place a few minutes after the poisoning; for if the animals do not vomit within the first hour and a half after the poisoning, they perish without exception.

13. All the dogs poisoned by 25 or 30 centigrammes of arsenious acid dissolved in water, which vomited abundantly some minutes after the poisoning, were healed at the end of some hours, by simply exhibiting warm water, even when this liquid is not ingested for the first time, before two hours have elapsed after the taking of the poison.

14. Dogs treated as described in the last paragraph, were restored as easily by employing simultaneously the aqueous medication and blood-letting; the latter, even if useless, is at least harmless.

15. Calcothar, or the "anhydrous oxide of iron," ought never to be employed as an antidote to arsenious acid, because it does not neutralise the poison even in an immense pose.

16. The dry hydrated sesquioxide of iron absorbs and neutralises a great quantity of the arsenious acid, by forming a sub-arsenite of iron which is poisonous, but less deleterious than the arsenious acid.

17. It is useful to administer this dry hydrated sesquioxide of iron mixed in water, especially if it produces vomiting; for then, independent of the portion of poison expelled by the vomiting in the state of arsenious acid, the patients reject farther the *sub-arsenite* of iron which takes up a large quantity of the acid.

18. One should not regret the presence of the sub-arsenite of iron in the stomach when there is no vomiting, however poisonous that salt may be, for as fast as the acids of the stomach decompose it, the arsenious acid set at liberty is neutralised by another portion of the sesquioxide, which ought always to be employed in a large dose.

19. The animals poisoned by large doses of tartar-emetic applied in a solid form to the subcutaneous cellular tissue, and more than strong enough to produce death, were all healed if they were made to urinate by means of watery and diuretic drinks.

20. The urine passed by the dogs poisoned with arsenic and tartar-emetic always contained some of the poison, and the viscera retained so much the less of the poison, according as the urinary secretion was more abundant.

21. In poisoning with arsenious acid introduced into the stomach, the attendant should hasten to promote vomiting, and should give to the patient frequently, and at short intervals, from 4 to 6 grammes of the dry hydrated sesquioxide of iron, powdered and diffused in 50 grammes of water. If the patient should have taken the poison

some hours, and the poison have already reached the intestinal canal, and no alvine evacuations have occurred, 50 or 60 grammes of castor-oil may be administered, and assisted with a lavement of water. When it is supposed that the major part of the arsenious acid contained in the digestive canal is neutralised and expelled by the vomiting and by the stools, the attendant should recur to the use of emollient and diuretic liquids in abundance, in order to expel through the kidneys the portion of the poison which may be absorbed and dispersed through the tissues. These liquids, if taken at the first period of poisoning, would have the disadvantage of dissolving the arsenious acid, and thus favouring its absorption. Blood-letting should be employed whenever there is evident reaction, as well on account of the results furnished in these experiments as that its utility in certain cases has been admitted for every age. Tonics and excitants ought to be carefully prescribed, because they are useless, and may be hurtful.

22. We are finally led to believe that medical men will derive great assistance from the aqueous and diuretic medication, employed *in good time*, in the numerous cases of poisoning where the vegetable or mineral poisonous substances may have been absorbed; for then the animal economy is unburthened through the urinary passages of a great part, or of the whole of the poisons absorbed.

TALIPES.

By Mr. J. Braid.

[*From the Edinburgh Journal.*]

I think there can be no doubt of club-foot being hereditary, as I have repeatedly met with two or three in a family; in one instance four, and in another, six club-feet in one family.

Different instructions as to what tendons should be divided in each variety are given by surgeons, and I find an American author, Dr. Chace, is advocating mechanical extension alone. His cases comprise no difficulties, and would have been cured in less time, and with less pain, by the cutting treatment.

Having operated upon two hundred and forty-six club-feet, embracing every variety and every age, from fifty-three years to two days old; and having, in the course of this practice, tried many modes of operation, the results of which I have watched with strict attention, I trust I may not be deemed presumptuous in offering opinions different from others who have written upon the subject, but whose opportunities of observation may not have been so ample as my own, however competent they might have been in other respects.

It appears to me, that it is not enough to say that any given method should be adopted, because cases have been cured by that plan. The plans must vary according to the cases.

In a case of pure talipes equinus with rigid contraction, it will generally be found that not only is the tendo Achillis and plantaris implicated, but also the flexor longus pollicis pedis and flexor longus digitorum, tibialis posticus and peronæus longus and brevis. I am aware that after dividing the tendo Achillis alone, forcible extension will be adequate to bring the foot into its natural position; but I am certain that it will be after much longer time has been expended, than if all the rigid muscles had been divided at once. Moreover, I confidently affirm that if all are divided, and the foot brought to the natural position within four or five days, sufficiently firm reunion will have taken place to enable the patient to extend the foot. If any of these muscles are relaxed, it would be superfluous to divide them; but as they are generally proportionally contracted, by dividing them, the patient is saved much suffering during the extension, and the danger of relapse is lessened.

The wounds being closed with adhesive plaster, the foot and leg should be bandaged as high as the knee, to retain the foot in its original malposition for a few days, and absolute rest and quiet should be enjoined. Extension should begin in two days, and in three or four the foot may be brought to a right angle with the leg.

For the same reasons in varus, I divide at once every tendon which can possibly retain the foot in its malposition; viz., Achillis, tibialis anticus, tibialis posticus, flexor longus pollicis pedis, and flexor longus digitorum, and abductor pollicis, if required; and should there be much contraction of the sole of the foot, the plantar fascia as well as the short flexors. The wounds being closed, and the foot maintained in its original position, in two days extension may be commenced, so as to bring down the heel, and evert and flatten the foot at the same time. I consider the treatment by *successive* divisions of the tendons as objectionable. 1st, it retards the cure; 2nd, it causes too much new tendon to be inserted between the divided ends of the tibialis anticus, and thus weakens the power of bending the foot; and, 3rd, it renders necessary a second division of the tibialis posticus, flexor longus pollicis pedis, and flexor longus digitorum.

In valgus the peronæus longus and brevis generally require division, and sometimes also the tendo Achillis, peronæus tertius, and extensor longus digitorum, and proprius pollicis pedis. In two days such splints as will maintain necessary extension should be applied.

In calcaneous talipes the tibialis anticus, extensor proprius pollicis pedis, extensor longus digitorum pedis, and peronæus tertius, generally require to be divided. Divide

either all or as many as seem to bear on maintaining the malposition.

Having restored the foot to its normal position, it is of importance to ascertain whether the legs are of equal length. In most cases of single talipes, the affected leg is shorter. This must be compensated by a high-heeled shoe, otherwise the patient will recur to the original malposition.

For adults I use a straight blade one inch and a quarter long, and about the twelfth of an inch broad. The point is cut off at an angle of 60°. This is less apt to tranfix the tendon, and leave any portion undivided, than the sharp-pointed blades. For children a smaller blade will suffice.

I divide the tendo Achillis about an inch and a half from its insertion in the adult, and proportionally less in younger patients, and prefer cutting from without inwards. The tibialis anticus near its insertion in the internal cuneiform bone; the tibialis posticus near its insertion in the scaphoid bone; the flexor longus pollicis pedis, and flexor longus digitorum pedis, at the point of decussation in the sole of the foot, from within outwards; and from this same wound the plantar fascia may also be cut. The peronæus longus and brevis are best divided together above the malleolus, and separately below it near their points of insertion; the extensor longus digitorum pedis before the points of separation into tendons; the extensor proprius pollicis a little more inwardly, and the peronæus tertius in the same line, or near its insertion; all these latter from within outwards, the tendons being kept on the stretch whilst divided.

The machine I use consists of a sole-piece of hard wood (say deal) about three-eighths of an inch thick, of the length of the foot, and breadth of the sole at its greatest width, with an edge two inches and a half deep, to rest upon the inside of the foot. The two pieces are fastened together with screws, and a notch cut in the sole-piece a little anterior to the malleolus externus; and another notch in the side-piece, behind the root of the great toe, to allow the bandage the better to embrace the foot, and make it lie close to the wooden sandal. This should be covered with sheet-wadding, or a pad, and is to be bound firmly on the foot with a roller, or two or three straps and buckles. A piece of wood from two to three inches wide, and sufficiently long to reach from the foot to a little below the knee, with a notch at the bottom corner, is now to be made fast to the foot and sole-piece by means of a bandage, and placed at an acute angle with the sole, so that it may have enough leverage to elevate the foot when the upright stem is carried back to the side of the leg. An assistant is now to be requested to place a little wadding or pad at the inner edge of the leg-piece, and carry it back until it rest against the top of the tibia; the surgeon regulating the extension to what the patient can bear, by allowing the bandage to give way, more or less, as he judges necessary. He is now to pass the bandage round the foot, ankle, and leg, from the foot upwards, embracing also the leg-piece, with such a degree of tension as is necessary.

The price of such an apparatus is not more than three shillings.

ROYAL COLLEGE OF SURGEONS IN LONDON.

REGULATIONS OF THE COUNCIL

Respecting the Professional Education of Candidates for the Diploma, August 20th, 1839. *Amended October 14th,* 1841.

I. Candidates will be required, in addition to a certificate of being not less than twenty-one years of age, to bring proof

1. Of having been engaged in the acquirement of professional knowledge for not less than four years; during which period they must have studied practical pharmacy for six months, and have attended one year on the practice of physic, and three years on the practice of surgery, at a recognised hospital or hospitals in the United Kingdom;* three months being allowed for a vacation in each year.
2. Of having studied anatomy and physiology, by attendance on lectures and demonstrations, and by dissections, during three anatomical seasons or sessions, extending from October to April inclusive.
3. Of having attended at least two courses of lectures on the principles and practice of surgery, delivered in two distinct periods or seasons, each course comprising not less than 70 lectures:—and one course of not fewer than 70 lectures, on each of the following subjects; viz., the practice of physic—chemistry—materia medica—and midwifery with practical instruction.

II. Members and licentiates in surgery of any legally-constituted college of surgeons in the United Kingdom, and graduates in surgery of any university requiring residence to obtain degrees, will be admitted for examination on producing their diploma, licence, or degree, together with proofs of being twenty-one years of age, and of having been occupied at least four years in the acquirement of professional knowledge.

* By a resolution of the council on the 7th of November, 1839, no provincial hospital will in future be recognised by this college which contains fewer than 100 patients, and no metropolitan hospital which contains fewer than 150 patients.

III. Graduates in medicine of any legally-constituted college or university requiring residence to obtain degrees, will be admitted for examination on adducing, together with their diploma or degree, proof of having completed the anatomical and surgical education required by the foregoing regulations, either at the school of the university where they shall have graduated, or at a recognised school or schools in the United Kingdom.

IV. Certificates will not be recognised from any hospital unless the surgeons thereto be members of one of the legally-constituted colleges of surgeons in the United Kingdom; nor from any school of anatomy, physiology, or midwifery, unless the respective teachers be members of some legally-constituted college of physicians or surgeons in the United Kingdom; nor from any school of surgery, unless the respective teachers be members of some legally-constituted college of surgeons in the United Kingdom.

V. Certificates will not be received on more than one branch of science from one and the same lecturer: but anatomy and physiology, demonstrations and dissections, will be respectively considered as one branch of science.

VI. Certificates will not be received from candidates for the diploma who have studied in London, unless they shall have registered their tickets at the college, as required by the regulations, during the last ten days of January, April, and October, in each year; nor from candidates who have studied elsewhere, unless their names regularly appear in the registers transmitted from their respective schools.

N. B.—In the certificates of attendance on hospital practice and on lectures, it is required that the dates of commencement and termination be clearly expressed; *and no interlineation, erasure, or alteration will be allowed.*

Blank forms of the required certificates may be obtained on application to the secretary, to whom they must be delivered, properly filled up, ten days before the candidate can be admitted to examination; and all such certificates are retained at the college.

By order of the Council,

EDMUND BELFOUR, Secretary.

REGULATIONS RESPECTING THE MUSEUM AND LIBRARY.

The museum is open to the members of the college and to the trustees of the Hunterian collection, and to visitors introduced by them personally, or by written orders stating their names, which orders are not transferable on the public days, which are Mondays, Tuesdays, Wednesdays, and Thursdays, from twelve to four o'clock, except during the month of September, when the museum is closed.

The museum is open on public days to all fellows and licentiates of the Royal College of Physicians in London; to peers and members of Parliament; to the great officers of state and of the royal household, and their immediate deputies; to all the dignitaries of the church and of the law; to all general and flag officers; to the members of all the learned and scientific bodies in the United Kingdom; to the members of all public boards, and to persons introduced personally by them respectively; and to all respectable foreigners, and to the articled students of the college, on entering their names and ranks or stations in the book provided for that purpose.

Lastly, the secretary and conservators will exercise their judgment in giving admission to any respectably-dressed persons who may apply for it.

The museum will be open on Fridays to gentlemen desirous of studying in it, from twelve to four in winter, and from twelve to five in summer, on their making a written application to the president or museum committee.

The senior conservator, Mr. Clift, will attend every day on the visitors and students, and both the conservators, Messrs. Clift and Owen, on Saturdays, from ten to one; on which day visitors and students desirous of comparing specimens with those in the museum, or of having specimens examined, or of gaining other information, are requested to present themselves.

N. B.—The parts of the catalogue of the collection already printed are to be purchased at the museum at cost price.

EDMUND BELFOUR, Secretary.

October 14, 1841.

LIBRARY.

The library is open daily, Sundays excepted, to members and articled students of the college, from ten until four o'clock, from the 1st of October to the 1st of April; and from the 1st of April to the 1st of September, from ten until half-past five o'clock.

Members have the privilege of personally introducing a visitor.

Persons not members desirous of admission, must make application in writing to the president or library committee, specifying their christian and surnames, rank, or profession, and residence.

Tickets of admission are granted for six months, at the expiration of which time application must be made for their renewal.

EDMUND BELFOUR, Secretary.

October 14, 1841.

*** We exceedingly regret that the above notification from the College of Surgeons

was omitted from the last number of our Journal; and if any medical student, in consequence of not having seen it in our columns, omitted to make a registration of his name, we feel confident that if he forthwith attend at the college, and make a representation to that effect, he will not be allowed to suffer any inconvenience in consequence of the accident.

THE LICENTIATES OF THE COLLEGE OF PHYSICIANS.

To the Editor of THE LANCET.

SIR,—Your ready insertion of my note of last week induces me to address you once more, on another subject, not remotely connected with medical reform.

The licentiates of the College of Physicians are, doubtless, a degraded set of men—have undoubtedly great reason to complain of the treatment to which they have been and are subjected. Not one word in the orations delivered before the British Medical Association last year, by Dr. Marshall Hall, and this year by Professor Grant, is too severe, in reference to the treatment they have received.

But, Sir, the point to which I beg, through the medium of THE LANCET, to call public attention is this. Degraded as the licentiates are, by the conduct of the fellows of the College of Physicians, they are at least as degraded by their own. When and where have they, by a steady, steadfast union and co-operation, made their cause known to the proper authorities? When and where has been their energetic *agitation* of the question of their *rights?*

Even now, that the British Medical Association—that association so exalted in its aims, dignified in its course, under the direction of its able president, and daily rising into such power and importance—affords them the opportunity, do they embrace that opportunity? *One only* licentiate belonged to that association. He, being now a fellow, is the only one still to be found pleading the licentiates' cause. Truly, the licentiates remind me of the waggoner and Jupiter. If they would only nobly combine, and put their shoulders to the wheel—one and all—at this *crisis* especially—they would not long remain *licentiates!*

But if the fellows are haughty despots, the licentiates are mean sycophants. They deserve their humiliation. It becomes them admirably.

Oh, I would stir those gentlemen up to a *sense* of their degradation, their self-degradation—and to a *sense* of their power. Let them unite in their just cause. Let them with one voice—never, never to be stilled until they obtain them—demand their rights. Let them no longer creep, or rather crawl, at the feet of the fellows, until these may please to take pity on them. No. But let them pursue a nobler course,—join the band which is united to obtain justice for all ranks of the profession. Then, and only then, will they deserve, and, deserving, achieve their emancipation from their humiliation and thraldom.

I speak, Sir, especially to the graduates of Edinburgh, myself a member of that university, and I call upon them to disgrace their Alma Mater no longer, by their supineness, their submission, their mean *expectancy!*

To the two hundred and seventy licentiates, and the seventy-six extra-licentiates (according to the college list for 1840), I make this appeal, and I say—emulate the conduct of Stanger and of Wells—join the band of true reformers, against your one hundred and thirty-two oppressors, and—BE MEN! I am, Sir, your obedient servant,

CENSOR.

London, Nov. 2, 1841.

"A LOOKER-ON" TO DR. HITCH.

To the Editor of THE LANCET.

SIR,—The playfulness of Dr. Hitch's reply, proves him to be more of the knight than the clown, and fitter to poise the lance than brandish the cudgel; and whilst I accept in the true spirit of knighthood his proffered courtesy, and admire the gallantry with which he declines to shrink from opinions expressed in a private letter, notwithstanding his annoyance at their improper publication, I greatly regret that he declines my challenge. It is contrary to all the laws of chivalry, to require a knight to raise his beaver who enters the lists with it closed; and the name and reputation of Dr. Hitch would be advantage enough against the pretensions of a nameless knight, without the additional knowledge of its utter insignificance.

But the "Looker-on" still hopes to draw from Dr. Hitch *for the public use*, if not in the shape of controversy in some more welcome form, some portion of his great and useful experience in the noble cause in which we are both engaged. There cannot be a more fitting opportunity than his next annual report of the state of the Gloucester Asylum; and I trust ere that period shall arrive, he will have matured and practically established the great improvements he has now in progress. I am, Sir, your obedient servant,

A LOOKER-ON.

October 27, 1841.

THE LANCET.

London, Saturday, November 6, 1841.

Often does it happen that the public welfare is best advanced and promoted by the knowledge which grows out of the conflicts that arise from contending interests. When rights, or *assumed* rights, are attacked, the party who believes that he is about to be subjected to an undeserved injury does not hesitate to avail himself of every legitimate instrument that can be wielded in support of his acquired position. Thus it happens that the principle of self-preservation, ever in operation in the human mind, calls to its aid all the energy and power that experience and the vigour of intellect can furnish and bestow. Were it not for the struggles which are continually arising out of opposing interests, society might soon sink into a state of apathy, and the best conducted human affairs, at one period, might subside, at no distant epoch, into ill-assorted arrangements and conventional practices, altogether undeserving of the respect or sanction of an intelligent community. Discussion is the enlivening and soul-stirring mean that leads to public improvement,—discussion, through the instrumentality of the press, which extends throughout every quarter and channel of the civilised globe. What, in such a contest, is to become of error, of wrong-doing, of practices that are upheld by chicanery, delusion, falsehood, fraud? Can they maintain their ground before the eye of reason, and the mighty and resistless hand of justice? Impossible. Who, then, shall dread entering into the arena of intellectual strife, when he knows and feels that his right arm is nerved by the advocacy of a noble and a righteous cause? The combatant who is thus engaged does not blench or quail under calumny, insult, slander, misrepresentation, or threats. He holds his course, unmoved by the tempests of passion which every where range around him, and is regardless of every consequence save that of failing in the attempt to diminish the misfortunes, and add to the happiness, of his fellow-creatures.

Eighteen years have now rolled on since we commenced the battle of the British general practitioner of medicine in the pages of this Journal. From that time to the present we have not shrunk from discussions in which the public health and medical interests were involved. At times, terrific has been the array against us,—colleges, corporations, and companies, clubbing their filthy means to stifle the voice of truth, and extinguish, eternally, an intrepid medical press. We hurled at all their combined forces the gauntlet of defiance. The strengthened position which this Journal has acquired furnishes the best evidence of the extent and value of our victories. The issue of the contest was not at any time doubtful; and truth, trumpet-tongued, proclaims that the mighty forces of Hygæia shall continue to flourish, and amongst a people whose paramount object is to mitigate the sufferings of humanity.

If we have hitherto contended, unmoved, against all the powers of corruption which could be brought to bear against us,—if we have been enabled, by our own unaided efforts, to make the mercenary jugglers of our old corporate temples of iniquity tremble in their dens, and quake under the exposures which we have inflicted upon them, it can hardly be expected, excepting by very weak-minded persons, that we are to be deterred from discussing, in its fullest length and breadth, a question of medical law, merely because the bearings of it may happen to be prejudicial to the interests of a large class of respectable tradesmen. If we *knew* that the result of the discussion would be directly injurious to the druggists, such a conviction would not in the slightest degree change the progress of our pen in the course which it has lately pursued, and is now pursuing. Is the mind to be cozened and wheedled out of its line of duty, on the plea that individual injury may arise from establishing a *general benefit*? Such an exhortation to

desist from promoting a just work, exhibits in all its hideousness the worst traits of a knavish cant. The enormous number of angry letters which continues to flow in upon us, proves that we have again provoked and agitated some hostile elements amongst a numerous class of a trading portion of the community.

Let it not be said, however, that we have engaged in this duty wantonly, or without cause; but we cannot condescend to enter upon our vindication for so doing. If our arguments be sustained by facts, and by their just and beneficial tendency, they must continue, whatever may be the batteries which intrigue, or ignorance, or avarice, sets up against them. If they be less soundly or irresistibly based, we well know what must be their fate.

Thus far,—in expounding the new state of things which has arisen out of the case of the APOTHECARIES' COMPANY *v.* GREENOUGH, —our success has been complete. It is all that we could desire; because we are furnished with the most ample testimony that we have thoroughly succeeded in obtaining for the subject the earnest, and, we might almost say, the undivided, attention of the whole profession. It is equally evident that we have awakened in the minds of the druggists some very disagreeable and painful reflections. Two notes, selected from a number by far too great ever to be inserted in our columns, will exhibit, pretty accurately, the feelings and views which our recent arguments, on the present state of medical law, and on the duty which has devolved on the Society of Apothecaries, seem to have produced:—

To the Editor of THE LANCET.

Sir,—In the late Numbers of your Periodical you have treated the drug trade with great injustice, if not cruelty. You have marked out the members of that body for prosecution, persecution. You denounce them as violators of the law, and destroyers of her Majesty's subjects. I am not capable of answering your arguments, but I can feel indignant at such charges. For myself I can conscientiously aver that I never prescribed for a sick person without endeavouring to afford relief to the best of my judgment; and I am not selfish in so doing, any more than the best physician or surgeon in the country. You have now quite disturbed my mind. I fear that every new patient is come to inform against me to the Company, and I refused to prescribe for more than thirty patients in the week just now passed. You have also by your writing put me to the expense of consulting both an attorney and a barrister, as to what I must do. If you are right in your law I feel that I must be ruined, or carry on some other branch of trade. I am, Sir, your obedient servant,

—— street, London, Nov. 1, 1841.

This gentleman is certainly in a very deplorable condition. He has lost his "patients," and has got into the hands of the lawyers to boot. His note furnishes ample materials for comment. It contains within its brief compass a huge mass of evidence in support of the allegations which we have made relating to the extent in which *chemists* and *druggists* engage in *medical* practice. The second note is selected from the communications of a class of writers who are by no means displeased with our exposition of the operation and tendencies of the present state of medical law:—

To the Editor of THE LANCET.

Sir,—The service you have rendered the profession, by developing the evils of permitting unqualified persons to prescribe for the sick, cannot be overrated. You never performed a more important duty, or one for which the profession owed you a larger share of gratitude. I beseech of you to continue your admonitory attack. It is impossible that the druggist can stand up against it. His counter-practice must be annihilated, and, with its discontinuance, I believe, with you, that there will be a saving of the lives of thousands. If the Company of Apothecaries slumber at this juncture, they will encounter a weighty amount of responsibility, and the reproaches and hatred of the profession will follow. You have clearly and satisfactorily proved that if the judges continue to act upon the opinions they expressed in the case of Greenough, the Act of 1815 is quite sufficient to put down *counter-practice*; but the Act can only be put into vigorous and effectual operation by the Company. As a licentiate I call upon that body to discharge their duty faithfully, and I cordially concur with you in the praises you bestowed upon them for their just and spirited behaviour in the case of the druggist of the north. You have made thousands of us feel that our rights are to be secured on a totally new

footing, and that the public health is to be guarded against the very pernicious doings of a very large class of non-medical practitioners. I am, Sir, yours very respectfully,

A READER OF 15 YEARS' STANDING.

P.S.—Instead of the *conference* you have proposed, ought not the Company of Apothecaries to convene a meeting of the whole body of licentiates?

There is no difficulty in perceiving that the two notes which we have here selected for insertion have been penned under the influence of strongly-antagonised feelings, and nearly all that we have received from the opposed interested parties contain evidence of a similar description.

The letter of Mr. CURTIS, inserted at p. 215, is not marked by any strong feeling, and we have selected it for publication because that gentleman, with many others, has fallen into the error of supposing that the 29th section of the Apothecaries' Act is as protective of the rights of physicians and surgeons, as is the 28th section of the rights of chemists. That section had not escaped our notice, and many years since,—so early, in fact, as the year 1826,—we soundly rated the Colleges of Physicians and Surgeons for having permitted such a provision to be enacted into a law, without offering to it their strongest, most energetic, and determined opposition. Mr. CURTIS has only quoted a *portion* of the section, and we apprehend that he was so pleased with that part that he did not peruse the whole of the clause, which we here insert; and the reader will instantly perceive that the words printed in *italics* entirely take from the law that protective authority which Mr. CURTIS is of opinion it affords to physicians and surgeons. The words "save and except," &c., necessarily proved fatal to physicians and surgeons being enabled to practise as apothecaries without the licence of the Company; and it is worthy of careful observation that *those words*, and no others of a *similar import*, are to be found in the 28th section, (a copy of which will be found at p. 128 of THE LANCET for Oct. 23,) in relation to chemists and druggists. The 29th clause stands as follows:—

"29. Provided always, and be it further enacted, that nothing in this Act contained shall extend or be construed to extend to lessen, prejudice, or defeat, or in anywise to interfere with any of the rights, authorities, privileges, and immunities heretofore vested in and exercised and enjoyed by either of the two Universities of Oxford or Cambridge, the Royal College of Physicians, the Royal College of Surgeons, or the said Society of Apothecaries respectively, *other than and except such as shall or may have been altered, varied, or amended in and by this Act*, or of any person or persons practising as an apothecary previously to the first day of August, 1815; but the said Universities, Royal Colleges, and the said Society, and all such persons or person, shall have, use, exercise, and enjoy all such rights, authorities, privileges, and immunities, *save and except as aforesaid*, in as full, ample, and beneficial a manner, to all intents and purposes, as they might have done before the passing of this Act, and in case the same had never been passed."

We are very anxious that the portion of the clause as quoted by Mr. CURTIS, may not operate as a stumbling-block to any person who wishes to approach this question with a desire to obtain a correct knowledge of its legal bearings. On referring to the 28th section of the Act, it will be seen that the protection afforded to the chemist and druggist in the carrying on of his *trade* or *business*, is altogether unrestricted, unqualified, without limit. The provisions with reference to physicians and surgeons in the clause which we have just printed (the 29th), is directly, distinctly, positively, the reverse. These are only, in reality, to exercise their rights, privileges, and immunities, as heretofore, "other than, and except, such as shall "or may have been altered, varied, or "amended, in and by this Act." Here was the fatal blow which was struck at the College of Surgeons. But the Council of that day had not sufficient sagacity to perceive either the direction or the tendency of the instrument which was raised against their interests and authority. With such a "save-and-except" restraint upon the holder of the diploma of the College of Surgeons against his practising as an apothecary, no wonder that the first crusade of the Company was pressed against the members. Hence the public witnessed this extraordinary state of

things,—namely, that the possessors of the diplomas of the London College of Surgeons *could not recover in our courts of law* their charges for *medicines and attendance* in *medical* cases, because they had not been *examined by*, and had not obtained *licences from*, the Society of Apothecaries. Physicians—fellows of our colleges, and graduates of our universities—were placed in a similar degrading and annoying predicament, and thus had they been situated during twenty-five years before a single druggist was subjected to a prosecution for acting as a medical practitioner—before his right to recover charges for medicines prescribed by himself, was questioned in a court of law. If the "save-and-except" restriction had been contained in the 28th clause, all doubt and difficulty would have been removed, and it is certain that in that case the first operation of the Act would have been felt by the druggist who dared to act as a medical practitioner. The two sections, however, framed as they were, repulsive and contradictory, coupled with the collusion of the College of Physicians, the druggists, and the promoters of the Bill, produced a very considerable difficulty in applying the law, in the first instance, to the worst delinquents, and in obtaining from the Judges just and sound decisions. It is well known,—and it would be useless as well as dishonest to dispute the fact,—that the druggists *did* prescribe, and most extensively, *before the year* 1815; but the Judges have now decided, properly and wisely,—and that decision has been obtained through the admirable tact and perseverance of the Society of Apothecaries, — that such medical practice did not constitute a legitimate part of their *trade* or *business*,—that the 28th section has only extended protection to them in the carrying on of *that trade or business*,—and that it does not empower them to continue to act as medical practitioners; and in this respect the law will hold good against them as against all other persons who prescribe for patients, and vend their own remedies, "without a licence from Apothecaries' Hall."

But, in truth, the operation of the restriction is not limited merely to the *unqualified* practitioner—unqualified *qua medical education*—but it extends to the most highly-gifted and intellectual members of the profession, if they happen not to possess the licence of the Worshipful Company: so that in that respect the non-medical druggist is only placed on precisely the same footing as a first-rate physician or surgeon! Yet the druggist claims the right of prescribing, compounding, and vending, although no such right can be exercised, and the druggist winces and becomes furious because we have resolved that he should be restrained in his career of mischief. Oh! Shame, where is thy blush?

We have not space to continue the subject this week, but shall resume it in the next number of THE LANCET, and take up the question as it is opened in the *Pharmaceutical Transactions* for October the 1st; and we seize this opportunity of giving some angry spirits notice, that they may make preparation for a very strong ebullition of feeling, as we have resolved not to abandon the question until we have made it intelligible to every COUNTER-MANIPULATOR in the kingdom, nor until we have placed the rights and practice of the profession on a secure and proper foundation; and not until we, as we hope to, have added to the respectability of CHEMISTS and DRUGGISTS, by disentitling them from the degrading appellation of QUACKS, and by truly assuring the public that such respectable tradesmen are no longer injuring their own characters, or adding to the afflictions of the community, by engaging in the performance of duties which they do not understand.

Principles of General and Comparative Physiology, intended as an Introduction to the Study of Human Physiology, and as a Guide to the Philosophical Pursuit of Natural History. By WILLIAM B. CARPENTER, Lecturer on Physiology in the Bristol Medical School, &c. Second Edition. Churchill.

THERE are few works in the more elevated departments of the science of medicine that deserve a warmer commendation at our hands

than does the volume before us. We have before had occasion to speak highly in its praise when it was first presented to our notice in its early dress of a new edition. That our good opinion was not ill-bestowed has been since almost universally proved, not only in the favourable reception which the work has received from the pen of our literary contemporaries, but also in the more solid estimation of public patronage. In the interval of the circulation of the first edition, the author has not been idle; he has diligently collected all the new facts and researches bearing upon his subject, and with them has greatly enriched the present edition. To the student of medicine the work has now become indispensable; to the practitioner it will prove a delightful companion; and to the man of education unconnected with our profession it will unfold wonders in reference to the study of nature that must tend to raise his mind to elevated thoughts, in the contemplation of the magnificent harmony of the universe.

We need scarcely dwell upon the consideration of a fact, now generally admitted, that the physiology of man can alone be comprehended, in its multifarious details, by a close investigation of the phenomena of organisation displayed by inferior animals, and that much light is thrown upon the science by a knowledge of the principles of existence exhibited to our view in the observation of the vegetable kingdom. How much of our present knowledge is established upon this basis! And in no part of the science of physiology is this truth more clearly demonstrated, than in the interesting discoveries which modern research has contributed, upon the subjects of reproduction and development.

The work before us has, for its especial object, the consideration of this important co-relation; and the task, though extensive, will be found to have been most ably performed.

The volume opens with an introductory dissertation on Organised Structures; treating, in the first instance, of the nature and objects of physiology, and then of organised structures in general. The author next proceeds to the elementary structures of vegetables, including cellular tissue, ligneous tissue, vascular tissue, and lactiferous tissue; and then to the elementary structure of animals. The tissues described as entering into the composition of the elementary structures of animals, are twelve in number; adipose, vesicular, epidermic, cartilage, bone, teeth, cellular, serous, fibrous and mucous membranes, muscular and nervous tissue. In the next place, the transformation of tissues is examined; which is followed by a general view of the vegetable kingdom, its phanerogamic and cryptogamic divisions. We are then led to the consideration of a general view of the animal kingdom; taking in their descending order its five sub-kingdoms, viz., vertebrata, articulata, mollusca, radiata, and phytozoa. A comparison between the characters of the animal and vegetable kingdoms naturally follows, and is succeeded by the interesting subject of the symmetry of organised bodies, which completes the general view of organised structures.

After the general considerations involved in the preceding inquiries, the author proceeds to the prominent subjects of the volume, viz., General and Comparative Physiology. The first discusses the nature and causes of vital actions, and the nature and properties of vital stimuli; examining in their turn the stimuli of heat, light, and electricity, and the physical conditions of the surrounding medium. To this examination succeed a review of the general laws of organic development, and a general review of the vital functions.

In the book devoted to special and comparative physiology, the particular functions of the animal body are examined in successive order, viz., ingestion and absorption of aliment; the process of digestion; the circulation of the nutritive fluid; the functions of the lymphatic system; nutrition and formation of tissues; exhalation of aqueous vapour; secretion; evolution of light, heat, and electricity; the reproduction of organised beings; the subordinate laws regulating reproduction; the sensible motions of living beings; and the functions of the nervous system. The last chapter being devoted to the consideration of the marks of design exhibited in organised structures.

From the new matter of the present edition we shall make some short extracts, which will serve the double purpose of showing the writer's style, and also of conveying to our readers some idea of the interesting matter which forms the subject of the volume. In speaking of the small membranous vesicles which contain the oily deposit of fat, the author observes,—

"The fluid oily matter contained in the fat vesicles, however, would find its way through their walls, if it were not prevented by a very simple and beautiful contrivance,—the keeping those walls wet with a watery fluid,—which is effected by the circulation of the blood through the vessels that are distributed among them. The repulsion between the particles of oil and water effectually prevents the transudation of the former, so long as the membrane is saturated with the latter; but when a piece of fat is dried, its surface is soon found to be bedewed with minute drops of oil that have escaped from the cells, when these have become permeable by the evaporation of the watery fluid which previously filled their pores."

The development of all tissues from primitive cells, and the analogy of those cells with the cellular parenchyma of the vegetable kingdom, is beautifully illustrated in the following paragraph:—

"A very close approximation to the parenchyma of plants is also seen in the chorda dorsalis,—the gelatinous column which replaces the bodies of the vertebræ in some of the lowest fishes, and which occupies for a time the same position in the embryos of all higher vertebrata. Its cells, like those of adipose tissue, are quite distinct from each other; but their walls lie in closer approximation, so that, instead of a rounded, they have a polyhedral form. Young cells may often be seen within them,—the mode of whose development will be hereafter discussed. The pigment-tissues, as they have been termed, which give to different parts of the body, such as the skin and the choroid coat of the eye, their peculiar shades, consist of cells inclosing particles of colouring matter. These cells are round or oval when first formed; but they afterwards show a tendency to send out branches or ramifications, which interlace with each other, and thus render the form of the tissue more complex. This modification, however, throws much light on the transformation of other tissues."

The development of parasitic life in the internal textures of vegetables and plants is a subject of much interest. It has recently been observed by Laurent that a parasitic mucedinous plant is occasionally found in the interior of the ova of the limax agrestis, upon the surface of the embryo. If the plant be active in its growth, the embryo is destroyed; but if the latter obtain the ascendency in the perfection of its development, the growth of the plant is prevented. Other important instances are adduced by Dr. Carpenter.

"Animals as well as plants are liable to the growth of fungi within their bodies. Individuals of a species of polistes (the wasp of the West Indians) are often seen flying about with plants of their own length, projecting from some part of their surface; the germs of which have been introduced, probably, through the breathing pores at their sides, and have taken root in their substance so as to produce a luxuriant vegetation."

With these few extracts, which we acknowledge to be quite inadequate to do justice to the volume, we are compelled, from the restricted limits of our columns, to close our present notice of Dr. Carpenter's excellent work. And we again take occasion to recommend it most strongly and warmly to the attention of our readers.

WESTMINSTER MEDICAL SOCIETY.

Saturday, October 30, 1841.

Dr. Reid in the chair.

DISCUSSION ON ASPHYXIA AND ITS TREATMENT.

Alleged important Errors in the Treatment of Persons apparently Drowned, by the Royal Humane Society.

Mr. Streeter thought that asphyxia in children depended on three causes: pressure on the neck of the child by the funis; a comatose state of brain; and the collection of thick mucus about the upper part of the throat and air-passages. These would require different kinds of treatment. He thought experiments had shown that in the infant a much longer interval could take place between the cessation of the placental communication and the termination of life, than in the adult between the commencement of asphyxia and its fatal results; and that, therefore, the employment of artificial respiration could be resorted to at a later period with success in the former than the latter. He then gave the description of two cases in which persons had attempted suicide by drowning, and detailed at considerable length a case of Cæsarean section, performed by Mr. Green, in Guy's Hospital, and related by that surgeon in the Medico-Chirurgical Transactions, vol. xii. He detailed these cases with the view of showing how necessary it was to be unsparing in our efforts to save life.

Dr. Reid had seen the mode of treating asphyxia by giving the infant two or three sharp smacks on the thorax, succeed when when all other means had failed.

Dr. Guy, in some experiments on the fœtal lungs, with another object in view, however, had found in still-born children, who had never afterwards breathed, that the lungs were gorged with blood. He believed this might be a reason why they did not breathe, and might raise the question as to the propriety of abstracting blood. Two fœtuses

(twins) had been exhibited to the society two or three sessions since: one of these had breathed, the other not. The one that had breathed had much less blood in its lungs than the other. He thought Dr. M. Hall's plan of slapping the chest in preference to any other part of the child the most reasonable plan of proceeding, the object being to excite the fibres of the respiratory muscles.

Dr. PETTIGREW detailed the particulars of two cases of asphyxia from drowning which had occurred when he was house-surgeon at Charing-cross Hospital. In one of these the patient had been in and under the water for twenty-five minutes. In this case artificial respiration by the mouth and frictions of the body were the chief means employed. Dr. P. then entered at some length into his views on the nature and causes of asphyxia. After which

Mr. SNOW was called on for his reply, and said that he had used the term asphyxia in the sense to which it is now generally restricted, namely, to designate the pathological state occasioned by the stoppage of the respiration. He had distinguished between the asphyxia which arises from the arrest of the placental respiration before the respiration by the lungs can be established, and that which might take place in after-life from stoppage of the ordinary respiration; and since the phenomena were the same, whether the respiration were stopped by drowning, hanging, suffocation, or in any other way, he knew of no other distinction it was necessary to make, except, indeed, to point out the gradual asphyxia which might arise from a deficiency of oxygen in the air respired. But since this had never occurred to the human being, except in conjunction with carbonic acid gas, which really produced a specific effect of its own, it might be conveniently separated from asphyxia, and considered under the head of poisonous gases, and accordingly he had not included it in the subjects of his paper. He must again express his conviction that blowing with the breath was a very improper means of performing artificial respiration, for Gmelin had found that the mean result of the experiments of a number of physiologists gave nearly six per cent. as the quantity of carbonic acid contained in air which had been once breathed; and in some experiments which he (Mr. S.) had performed three years ago, and reported to that society,* he had found that animals soon died in an atmosphere where five per cent. of the oxygen was replaced by as much carbonic acid, and that where but three per cent. was so replaced they soon became ill, and ultimately died. He was aware that some children had been restored by inflating the lungs with the breath, but any inflation, however imperfect, with fresh air, must be much superior. Respecting the instrument he had introduced to the notice of the society, he would only read a passage from a paper by John Hunter, in which he had recommended a pair of bellows for artificial respiration, the action of which was precisely the same as that of Mr. Read's instrument:—"A pair of bellows so contrived with two separate cavities, that, by opening them, when applied to the nostrils or mouth of a patient, one cavity may be filled with common air, and the other with air sucked out from the lungs, and by shutting them again the common air will be thrown into the lungs, and that sucked out of the lungs discharged into the room." This paper, which he had met with since the last meeting, was in vol. lxvi., part 2, of the Philosophical Transactions, and entitled "Proposals for the Recovery of Persons apparently Drowned." He had expressed his opinion to the society, that in all cases of suspended animation, warmth ought not to be applied until respiration were first restored; and by what Mr. Woolley stated at the previous meeting, he found that the practice of the Royal Humane Society differed more widely from these views than he had previously believed; for it appeared that in the receiving-house in Hyde Park, they placed an asphyxiated person immediately in a bath, at 100 degrees, without using artificial respiration, although they had the means at hand. He would prove that this treatment was highly injurious, and felt confident it would accordingly be abandoned in favour of one more judicious. It would only be necessary to bring some of the many proofs he could advance in favour of this position. Dr. Edwards had shown, by a numerous set of experiments, that the progress of asphyxia was much more rapid in all classes of animals at blood-heat than at inferior temperatures. The same physiologist had likewise shown that the quantity of oxygen consumed and the necessity for respiration, kept a direct ratio with the development of animal heat; and, likewise, that the application of heat to the body increased its power of developing caloric, whilst the abstraction of heat by means of any cold medium had a contrary effect. Every one might observe that when the body was heated by exercise, or by any other cause, the necessity for respiration became much increased, and that breathing could not be stopped only for a few seconds without inconvenience and even danger. Now, it was the stoppage of respiration that was the cause of mischief in drowning, as in every case of asphyxia; and withdrawing a person from the water would be of no avail unless respiration were re-established, for otherwise the process of asphyxia would be going on; therefore the warm bath, by putting the system in a state which required more oxygen, would hurry on the process of death, if it did not at once cause the acts of respiration to commence. But the mechani-

* See LANCET, p. 93, vol. ii., 1838-39.

cal acts of breathing belonged to animal, not to organic life; they were, indeed, almost voluntary acts, and the warm bath, to rouse these, must do it through the nervous system. In the progress of asphyxia, however, voluntary motion ceased first, next the convulsive motions and the period when they might be excited by stimuli ceased; and the action of the heart, a languid circulation and some slow organic changes were the last signs of life to depart. It was clear, then, that the warm bath could only restore some persons not far advanced in asphyxia, who might easily be restored without it; whilst, in other cases, it would extinguish those small sparks of vitality they were anxious to cherish and light up into a flame. They had had fearful proof of the correctness of these views, from the statement of Mr. Woolley, that he had not found artificial respiration of benefit after the warm bath failed to restore life. Mr. Woolley had told them that five or six minutes was the longest period he had ever known any person to remain under water who was afterwards restored; but in the early reports of the Royal Humane Society, when only warm blankets, and similar less energetic means of applying warmth were resorted to, several persons were resuscitated after being more than ten minutes submerged, two or three persons more than twenty minutes; and in one of these cases there was the clearest proof that the person must have been, at least, twenty minutes under the water. In an early report of the society at Amsterdam for the recovery of persons drowned (the first society of the kind which was formed), it was stated that of the persons who recovered many had been but a few minutes under water, some a quarter of an hour, others half an hour, and one a whole hour. He knew no reason why these accounts, reported by scientific people, ought to be disputed. We heard often in our own days of persons being restored after lying some time before assistance was procured; and, if a person might remain five minutes under water, and ten more before any kind of breathing was set up, he might, undoubtedly, remain fifteen minutes submerged with an equal chance of recovery. It would always be a most dangerous state when total insensibility was produced by asphyxia; but we ought not to despair even when it had continued a length of time. Sir Benjamin Brodie had stated, that when the heart had ceased to act in asphyxia, or even ceased to act sufficiently to circulate the blood, it would be impossible to restore its action by artificial respiration. He (Mr. S.) had related in his paper, that he, in some measure, restored the action of the heart in a guinea-pig that had been dead an hour, by artificial respiration; and he could now bring forward the evidence of one of the greatest physiologists that ever lived on this subject, that of John Hunter, in the paper already alluded to:—"The muzzle of these bellows was fixed into the trachea of a dog, and by working them he was kept perfectly alive. While this artificial respiration was going on the sternum was taken off, so as to expose the heart and lungs: the heart continued to act as before, only the frequency of its action was greatly increased. Mr. Hunter then stopped the motion of the bellows, and observed the heart become gradually weaker, and less frequent in the contractions, till it left off moving altogether; but, by renewing the operation, the heart began again to move, at first very faintly, and with longer intermissions, but by continuing the artificial breathing, the motion of the heart became as frequent and as strong as before. This process was repeated upon the same dog ten times, sometimes stopping for five, eight, or ten minutes. Mr. Hunter observed, that every time he left off working the bellows the heart became extremely turgid with blood, and the blood in the left side became as dark as that in the right." This experiment of Hunter's proved, at least, that the heart might in some cases be restored to action by artificial respiration after it had ceased to beat. But, even supposing Sir B. Brodie's opinion to be correct, it would not justify the use of the warm bath in the first instance, since the heart would continue to act after the muscles of animal life had lost their irritability. The very slow and gradual manner in which respiration became renewed after apparent death, ought to deter one from at once placing the patient in a state in which he must either have a full and extensive respiration or perish. He would quote another passage from the same paper of John Hunter, in which that great man seemed, by his wonderful penetration, to have foreseen the laws of animal heat since made known by Dr. Edwards. After alluding to artificial respiration, it is stated—"While this business is going on an assistant should prepare bed-clothes, carefully brought to a proper degree of heat. Heat our author considers as congenial with the living principle—increasing the necessity of action it increases action; cold, on the other hand, lessens the necessity, and, of course, the action is diminished: to a due degree of heat, therefore, the living principle owes its vigour. From experience, he says it appears to be a law in animal bodies, that the degree of heat should bear a proportion to the quantity of life; as life is weakened this proportion requires great accuracy, while greater powers of life allow it greater latitudes." The medical members of the committee of the Royal Humane Society had come to a conclusion which to him (Mr. S.) was perfectly astounding; in the report for 1840 they stated, "It is their opinion that the period in cases of asphyxia, when artificial respiration might be successful in re-

storing life is very short, and scarcely more than momentary; and as it but rarely happens that such means can be applied at the precise moment, artificial respiration should be considered as a secondary means." The imperious necessity of respiration every moment of our lives pointed out as the object to be first effected in every case of asphyxia; and the fact, that the changes in the blood which constitute the essential part of respiration might take place after death, and even out of the body, proved that artificial respiration was the measure which might be useful at a later period in asphyxia than any other. The servants of the Royal Humane Society should have an instrument for artificial respiration in the boat with them, and use it the instant a body was got out of the water, without power to breathe; the cold, if not very intense, so far from being prejudicial, would be favourable to the maintenance of any latent vitality which remained. In cases where an apparatus was not at hand, artificial respiration should be performed in the mode proposed by Mr. Dalrymple, i. e., by tearing a sheet into the form of a many-tailed bandage, and alternately compressing and setting free the chest by this means. Rubbing the bodies of persons apparently dead had proved useful, he considered, by the pressure it occasioned on the chest and abdomen, and which might set up a slight current of air to and from the lungs. Suction applied to the mouth or nostrils, from the idea that there was water in the trachea and lungs, and since discontinued, when that idea was found to be erroneous, was useful, from the partial vacuum occasioned in the chest, which became refilled by fresh air; and it was from hearing of a successful instance of this practice that Mr. Read invented his instrument. These mechanical means of causing respiration would not be available, however, in a new-born child, where the lungs were empty and the chest collapsed; and in their case, therefore, the instrument was the more necessary. He believed that the benefit which used to be observed from fumigation of tobacco, introduced by the rectum, arose from the air introduced with the tobacco smoke, oxygenating the blood in the vascular mucous lining of the alimentary canal; and he thought that alternately injecting air, and allowing it to escape by a flexible tube, might set up an intestinal respiration which might be of some use in the absence of means to establish respiration by the lungs. He made a few observations on other auxiliary measures towards resuscitation.

MEDICAL SOCIETY OF LONDON.

Monday, Nov. 1, 1841.

Dr. CLUTTERBUCK, President.

SOME discussion took place on Mr. Mitchell's case.

Mr. DENDY related two cases of gentlemen in whom the pulse was intermittent, stopping for a period of two pulsations, about every seven or eight beats. There appeared in neither case to be any organic disease of the heart. In one case the cause seemed to be over-mental exertion; in the other, the intermission was always noticed to come on soon after eating a full meal. In this case the patient had also had more than usual exercise of the brain.

Dr. CLUTTERBUCK and Dr. ALISON considered that in Mr. Mitchell's case the ossific depôsit in the arteries was the result of inflammation. Dr. Alison also related a case in which he referred some very great irregularities of the heart to spasm of that organ.

VACCINATION AND THE VACCINATION ACT.

Mr. LEESE had as much confidence as ever in the efficacy of vaccination when efficiently performed.

Mr. DENDY and other members had found that the coupling of the Vaccination Act with the poor-law commissioners had been most detrimental to the progress of vaccination.

BRITISH MEDICAL ASSOCIATION.

Exeter Hall, Nov. 2, 1841.

FIRST MEETING OF THE NEW COUNCIL.

JOSEPH HOWELL, Esq., having been called to the chair, the meeting proceeded to the election of president, six vice-presidents, and a secretary.

On the Chairman opening the ballot,

George Webster, Esq., M.D. (Dulwich), was unanimously-elected president for the ensuing year.

The PRESIDENT, on taking the chair, having returned thanks for the honour conferred on him for the fifth time, then announced the following gentlemen to have been elected vice-presidents for the year ensuing:—

A. B. Granville, Esq., M.D., F.R.S.	J. Howell, Esq.
Robt. Davidson, Esq.	Wm. Farr, Esq.
Marshall Hall, Esq., M.D., F.R.S.	J. R. Lynch, Esq., M.D.

C. H. Rogers Harrison, Esq., was next declared unanimously elected honorary secretary, for a similar period; for which honour that gentleman briefly returned his thanks.

The following gentlemen, having been duly proposed and seconded, were elected ordinary members of the association:—

J. Blake, Esq., Cork-street, Bond-street.

— Cross, Esq., Leicester-square.

H. Brookman, Esq., Nettleton, Chippenham, Wilts.

On the motion of WM. EALES, Esq., seconded by S. READ, Esq., it was resolved unanimously,—

"That the best thanks of the council be

given to Mr. Dodson, Blackman-street, Borough, for his munificent donation of ten guineas to the Benevolent Fund of the association, presented at the late anniversary dinner."

A vote of thanks was also passed to J. Bryant, Esq. (Edgeware-road), for a donation of two guineas to the same fund.

A vote of thanks was unanimously passed by the council to Professor Grant, M.D., F.R.S., in addition to the enthusiastic vote of the general meeting for his very eloquent and splendid oration on Medical Reform.

Letters were read from J. H. Nankivell, Esq., St. Columb, Cornwall, and C. H. Higgins, Esq., Taunton, respectively, thanking the association for the honour conferred upon them at the late anniversary by electing them corresponding members of the association.

The subject of illegal practice in medicine having been freely discussed, it was resolved, on the motion of JOSEPH CURTIS, Esq., seconded by Dr. W. IFILL,—

"That a committee be appointed to inquire whether it would be desirable to adopt any measures with a view to suppress illegal practice in the present state of the law, with power to confer with the Apothecaries' Company on the subject, if necessary."

The committee, with power to add to their number, was named.

On the motion of ROBERT DAVIDSON, Esq., seconded by HENRY SMITH, Esq., it was resolved,—

"That a deputation be appointed to wait on Sir J. Graham, and any other member of her Majesty's Government, on the question of medical reform."

The deputation was named.

The council for the ensuing year consists of the following gentlemen:—

President—Geo. Webster, Esq., M.D.

Vice-Presidents.

A. B. Granville, Esq., M.D., F.R.S.
Robert Davidson, Esq.
M. Hall, Esq., M.D., F.R.S.
Jos. Howell, Esq.
W. Farr, Esq.
J. R. Lynch, Esq., M.D.

Treasurer—Ed. Evans, Esq.

Hon. Secretary—C. H. R. Harrison, Esq.

Hon. Solicitor—David Davies, Esq.

S. J. Bayfield, Esq.	Wm. Ifill, Esq., M.D.
J. N. Bainbridge, Esq.	W. P. James, Esq.
Charles Brady, Esq.	Geo. Pilcher, Esq.
J. S. Bristowe, Esq.	Samuel Pearce, Esq.
John Bryant, Esq.	Wm. Rendle, Esq.
Edward Crisp, Esq.	Sept. Read, Esq.
Jos. Curtis, Esq.	Henry Smith, Esq.
E. Doubleday, Esq.	R. Stevens, Esq.
Wm. Eales, Esq.	T. Sweeney, Esq.
R. D. Grainger, Esq.	T. Taylor, Esq.
M. W. Hilles, Esq.	Wm. Tidy, Esq.
R. L. Hooper, Esq.	M. F. Wagstaffe, Esq.
G. Hull, Esq., M.D.	T. Wakley, Esq., M.P.
	R. Wallace, Esq.

PRESCRIBING, DISPENSING, AND DRUG-VENDING,

BEFORE AUGUST, 1815.

To the Editor of THE LANCET.

SIR,—It has always appeared extraordinary to me, that the right of druggists to practise medicine has never been questioned until the late summer.*

The Act of 1815 was passed expressly to prevent persons from "exercising the functions of an apothecary, who are wholly ignorant and utterly incompetent to exercise such functions;" and it is decreed, "that from and after the first day of August, 1815, it shall not be lawful for persons to practise as such who were not previously in practice, and have not passed an examination before the examiners at Apothecaries' Hall."

In considering this subject, the first question that suggests itself is, what is meant by the functions of an apothecary? I believe it is agreed on all hands, that the functions of an apothecary, besides dispensing and administering under the direction of physicians, consist in prescribing for the sick, and dispensing, administering, &c., medicines to his own patients. If this be the case, all persons so prescribing, dispensing, &c., must be exercising the functions of an apothecary, whatever he may choose to write over his door; and, consequently, professing to be a chemist and druggist cannot alter the case. How would the case stand with any other trade or profession? Suppose, for instance, a person who sold tea and sugar chose to put up "ironmonger" over his door, would he, in the eye of the law, or of common sense, be the less a grocer? I never heard that any surgeon or physician who was prosecuted under the Apothecaries' Act, pleaded that he did not *call* himself an apothecary; although, in accordance with the arguments of the druggists, it ought to have availed him. So far, then, every person so prescribing, dispensing, &c., must be liable to the penalty of 20*l.*, imposed by the 20th section of the Act.

The druggists, however, claim exemption under the 28th section, which says they may carry on their trade or business as heretofore, and they contend that part of their business consisted in prescribing. Now, the terms trade and business are very clearly defined in the first part of this section; and surely the same words occurring again in the same paragraph must have the same meaning. Leaving this, however, out of the question, I deny that prescribing was a part of the business of a druggist. That some of them were in the habit of prescribing there is no

* Mr. Curtis must mean in a *court of law*, as in the case of the Apothecaries' Company *versus* Greenough, and that in the autumn of last year.—ED. L.

doubt, but many were not. What was the proportion between druggists who prescribed and those who did not I cannot tell, and do not think it essential to my argument. A very large proportion of them were also grocers; and I think it might be said with as much propriety, that the sale of tea and sugar is part of the business of a druggist as that prescribing is so.

The 29th section of the Act grants to physicians and surgeons the enjoyment of all rights, authorities, privileges, and immunities which they exercised before; and upon what principle of law or justice is it that this clause should not be as liberally construed as the former? If druggists, in many instances, were in the habit of prescribing, were not many physicians and surgeons also in the habit of dispensing their own medicines, and acting in all respects as apothecaries? and might it not be contended with the same reason, that the dispensing of medicine was part of the profession of a surgeon or physician, as that prescribing was part of the trade of a druggist?

If my reasoning be correct, it will hold good against all persons who prescribe for patients and vend their own remedies without licence from Apothecaries' Hall, whether they be water-doctors, or vendors of quack medicines, recommending them for particular complaints, or oculists, dentists, &c. &c.

If druggists who prescribe in the present day exercise the functions of an apothecary, those who did so before the passing of the Act must have been apothecaries to all intents and purposes; and, consequently, all such might exempt themselves from the penalties imposed, by pleading that they acted as apothecaries previous to the year 1815. I am, Sir, your obedient servant,

JOSEPH CURTIS.

Camden Town, Nov. 2, 1841.

THE COLLEGE OF PHYSICIANS AND THE UNIVERSITY OF LONDON.

To the Editor of THE LANCET.

SIR,—The letter of "Censor" in your Journal of this day, has not fairly stated the arrangement between the College of Physicians and the University of London. "Censor" states that the latter body "has actually entered into a coalition with the College of Physicians to degrade its own admitted candidates." The simple facts are as follows: The charter of the London University authorises the granting of medical degrees, but has no power of conferring a licence to practise. At nearly all of the hospitals and dispensaries in this metropolis and the neighbourhood, a regulation exists (right or wrong is not the question) by which no one can be elected physician to such institution who is not a fellow or licentiate of the College of Physicians. Deeming it a hardship that well-educated men should have to submit to a repetition of a strict and laborious examination, and that whilst they can get honours from one body they would have to apply to a distinct one for legal privileges, a proposition was made, that, if possible, one and the same examination should suffice for both the objects. After some considerable discussion, an arrangement to the effect alluded to by "Censor" was determined upon; but it is quite a voluntary act on the part of the London University candidates, and merely confers an advantage upon them, if they choose to avail themselves of it. As for the degradation insisted upon by "Censor," implied by the circumstance that this joint examination only enables the London University graduates to acquire the licence and not the fellowship, that is a different question entirely, it is merely a matter of opinion; but it must be recollected that since the new regulations of the London College of Physicians, every new fellow must have been previously a licentiate, so that the graduate of the London University now stands on the same footing as a graduate of Oxford, Cambridge, Edinburgh, or Dublin, with the additional advantage of having to undergo fewer separate and distinct examinations. I remain, Sir, your obedient servant,

ONE OF THE SENATE OF THE LONDON UNIVERSITY.

London, Oct. 30, 1841.

MONSIEUR LAFONTAINE, the showman in London, for a short time, of a pin and needle victim, is now baiting for flats in the shallow waters near Birmingham and other places. It is a reproach to this nation that such persons are capable of practising their devices amongst us for a single month. When will the age of humbug, credulity, and folly end? The members of the profession in London ought not to meet in consultation any man who still gives an open sanction to the monstrous delusion called "animal magnetism."

TO CORRESPONDENTS.

We are not aware of the existence of any such institution as that for which a "Junior Practitioner" inquires.

M. R. C. S. L., Clifford-street, Bond-street.

Mr. Wilson should address himself to Professor Morton at the Veterinary College.

Communications have been received from *Dr. Hiley; Studens Guyensis; Mr. Holt; Mr. Freeman.*